DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) BLACK RIVER STR. & APPRS. (BLACK ROCK) (F)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

BLACK RIVER STR. & APPRS. (BLACK ROCK) (F)

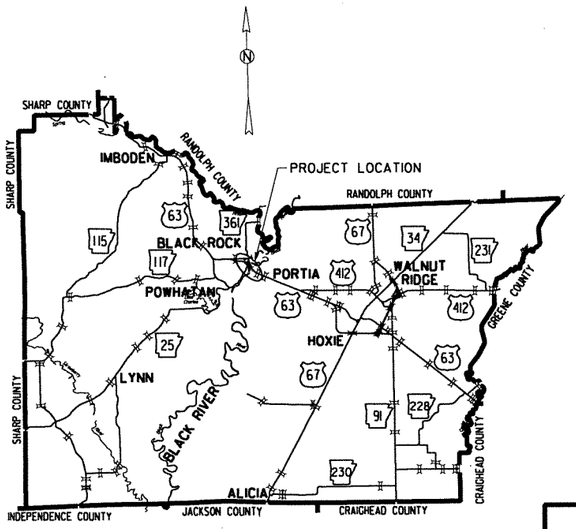
LAWRENCE COUNTY

JOB 100687

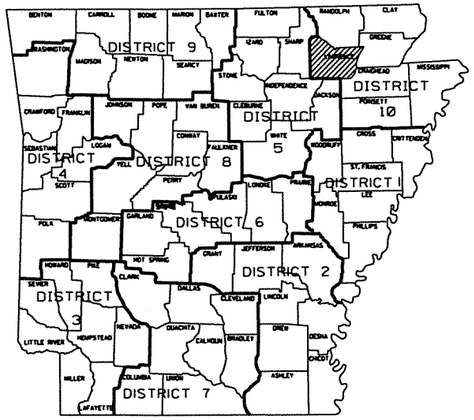
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ROUTE 63 SECTION 3

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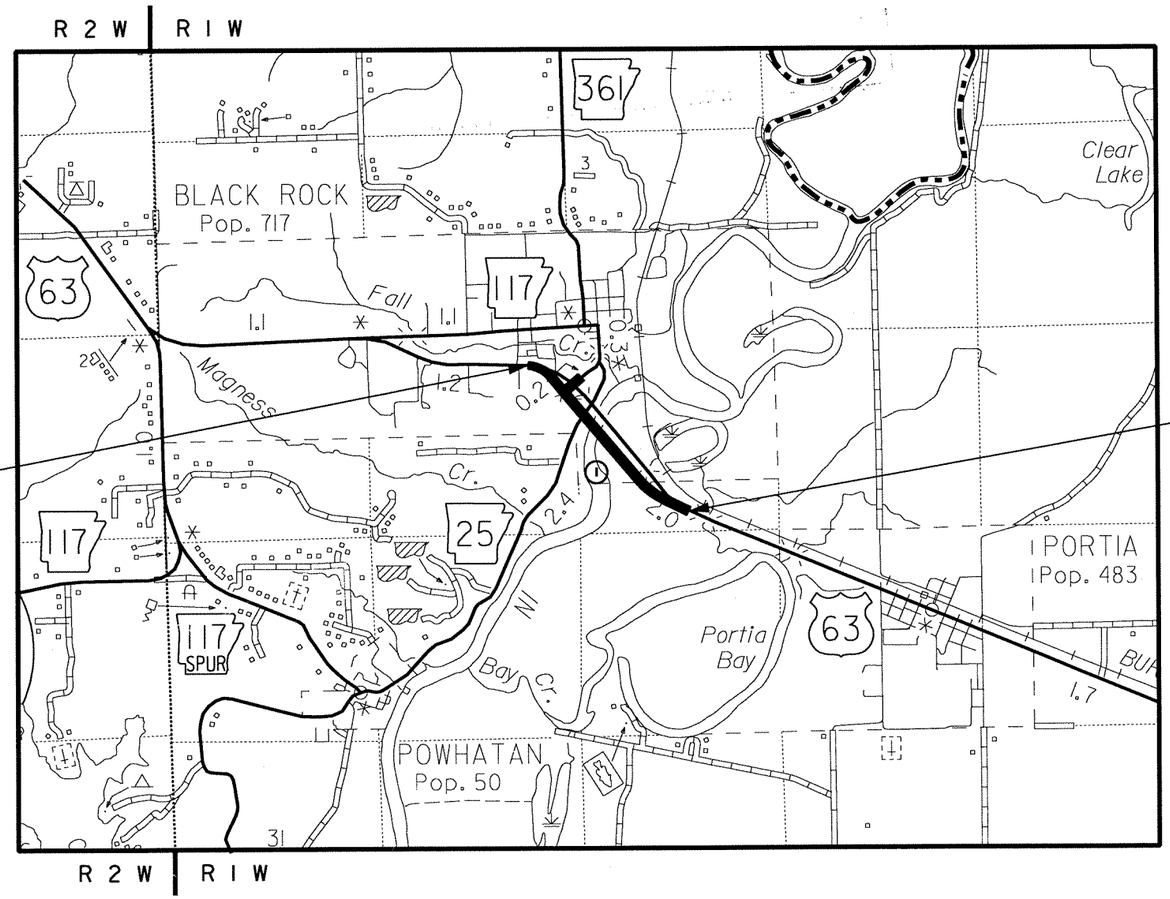
VICINITY MAP



ARK. HWY. DIST. NO. 10

BRIDGE STRUCTURES

(1) STA. 134+38.33 BRIDGE END
2592'-9 1/8" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE NO. 07263
75' CLEAR ROADWAY WIDTH
STA. 160+31.09 BRIDGE END



STA. 121+32.43
BEGIN JOB 100687
LOG MILE 15.53

STA. 175+80.00
END JOB 100687
BEGIN JOB 100686
LOG MILE 16.56

DESIGN YEAR	2033
2013 ADT	10,500
2033 ADT	13,000
2033 DHV	1,430
DIRECTIONAL DISTRIBUTION	50%
TRUCKS	20%
DESIGN SPEED	60 MPH

BEGIN-POINT OF PROJECT
LAT. 36°06'19" N
LONG. 91°06'06" W

MID-POINT OF PROJECT
LAT. 36°05'59" N
LONG. 91°05'42" W

END-POINT OF PROJECT
LAT. 36°05'41" N
LONG. 91°05'20" W

LENGTH COMPUTED ALONG ℄ US 63

GROSS LENGTH OF PROJECT	5,447.57 FT. OR	1.032 MI.
NET LENGTH OF ROADWAY	2,854.81 FT. OR	0.541 MI.
NET LENGTH OF BRIDGES	2,592.76 FT. OR	0.491 MI.
NET LENGTH OF PROJECT	5,447.57 FT. OR	1.032 MI.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 19004
09-07-2012

P.E. 100687

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHARMAR ALI
08-27-2012

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NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NATHRAR AZAD
10-23-2012

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.

2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.

5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

8. THE EXISTING PAVEMENT TO BE REMOVED SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN IN PLACE. ANY DAMAGE OF THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.

10. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.

11. ANY TEMPORARY FILL SHALL NOT ENTER THE 100 YEAR FLOOD PLAIN AS SHOWN IN THE PLANS AND THE AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION. THE MATERIAL AND WORK USED TO PLACE AND REMOVE THE TEMPORARY FILL WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO VARIOUS PAY ITEMS.

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 100687
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3	CONTROL OF WORK
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2	DESIGN AND QUALITY CONTROL OF ASHPALT MIXTURES
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
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604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
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JOB 100687	DETAILS FOR BOATER SAFETY ON BLACK RIVER
JOB 100687	DRILLED SHAFT FOUNDATIONS
JOB 100687	GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION BLACK RIVER
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JOB 100687	INTERNET BIDDING
JOB 100687	NESTING SITES OF MIGRATORY BIRDS
JOB 100687	NON-DESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB 100687	PARTNERING REQUIREMENTS
JOB 100687	PLASTIC PIPE
JOB 100687	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 100687	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 100687	SEQUENCE OF CONSTRUCTION
JOB 100687	SHORING
JOB 100687	SITE USE (A + B + C METHOD)
JOB 100687	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 100687	STORM WATER POLLUTION PREVENTION PLAN
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JOB 100687	WATER POLLUTION CONTROL & RESTRAINING CONDITION

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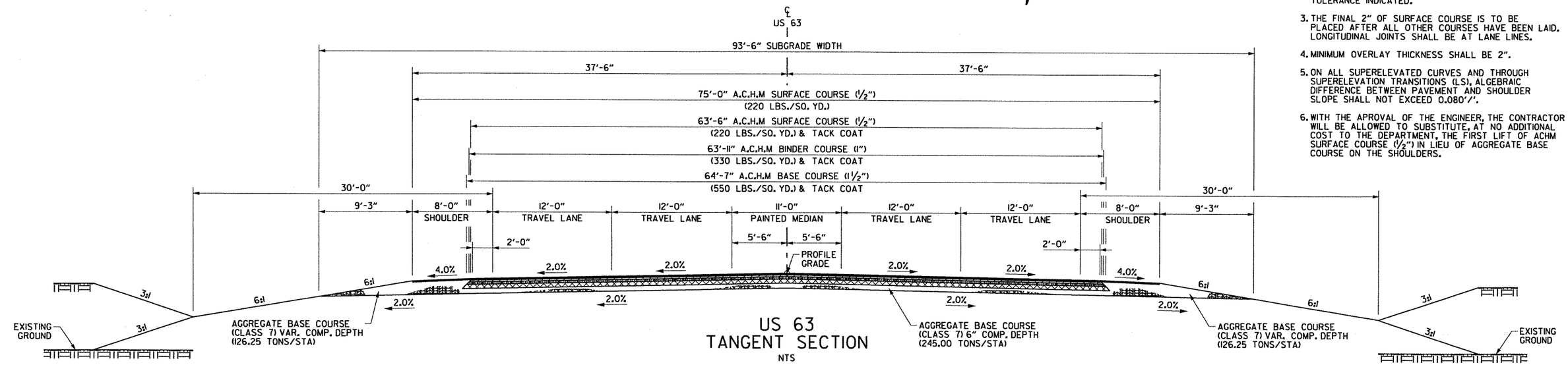
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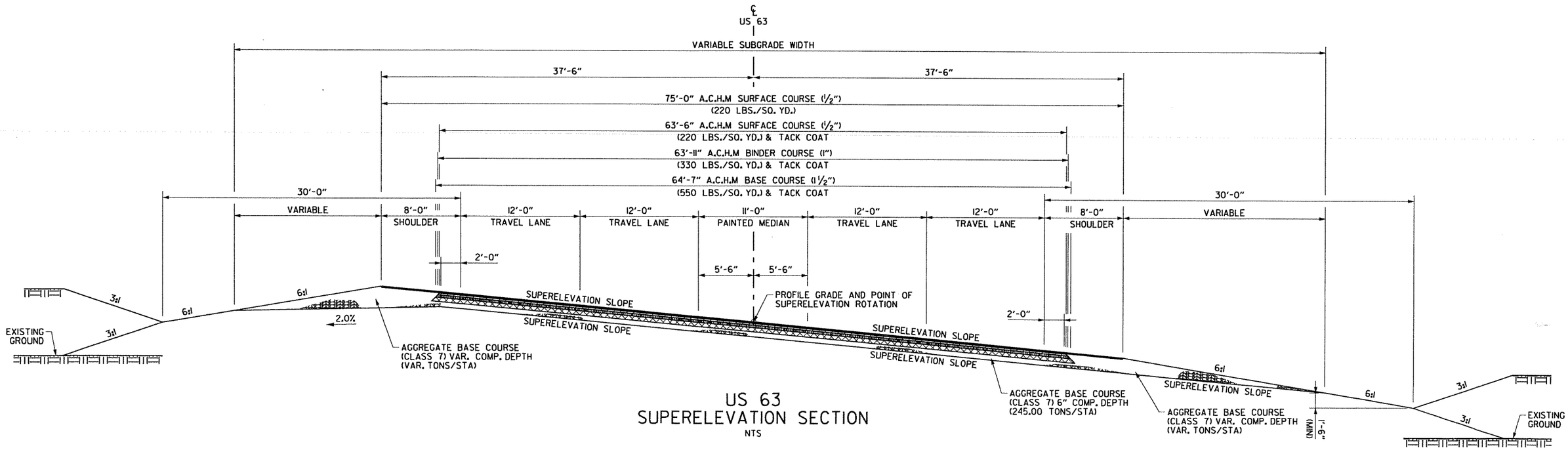
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
08-27-2012

NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
4. MINIMUM OVERLAY THICKNESS SHALL BE 2".
5. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS (LS), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT AND SHOULDER SLOPE SHALL NOT EXCEED 0.080'/'.
6. WITH THE APROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



US 63
TANGENT SECTION
NTS



US 63
SUPERELEVATION SECTION
NTS

TYPICAL SECTIONS OF IMPROVEMENT

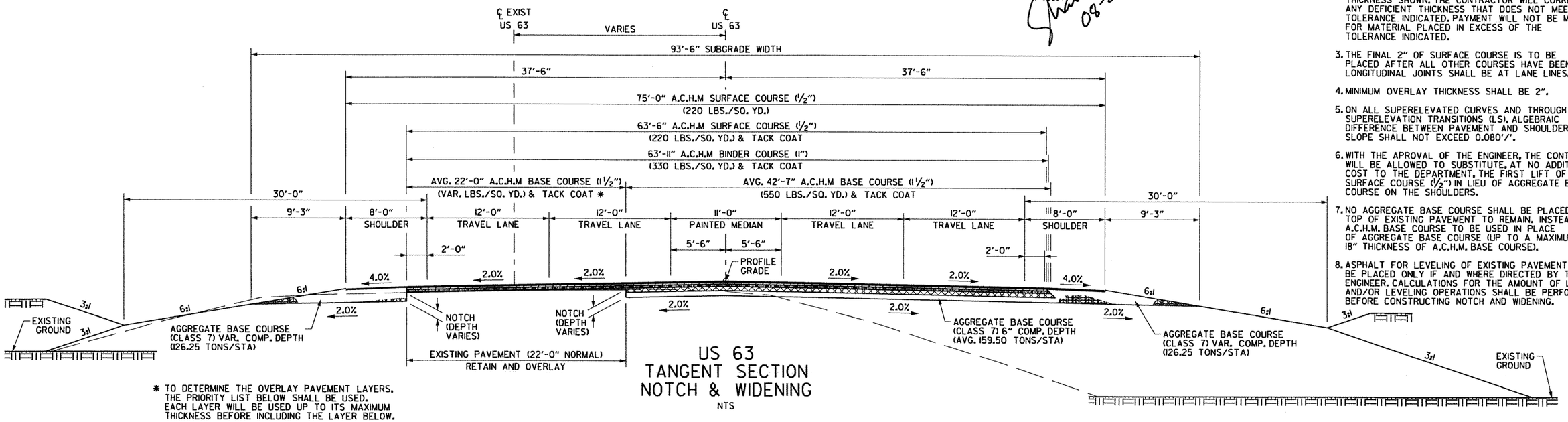
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
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SHAHNAWAR RIAD
08-27-2012

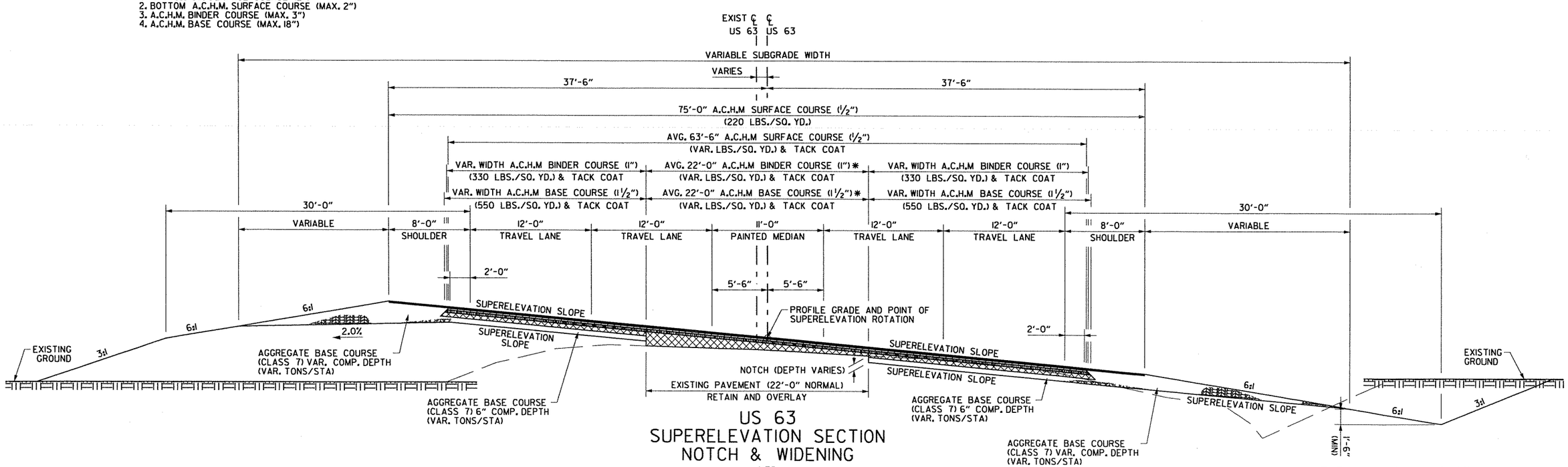
NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
4. MINIMUM OVERLAY THICKNESS SHALL BE 2".
5. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS (LS), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT AND SHOULDER SLOPE SHALL NOT EXCEED 0.080'/'.
6. WITH THE APROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.
7. NO AGGREGATE BASE COURSE SHALL BE PLACED ON TOP OF EXISTING PAVEMENT TO REMAIN. INSTEAD, A.C.H.M. BASE COURSE TO BE USED IN PLACE OF AGGREGATE BASE COURSE (UP TO A MAXIMUM 18" THICKNESS OF A.C.H.M. BASE COURSE).
8. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.



US 63
TANGENT SECTION
NOTCH & WIDENING
NTS

* TO DETERMINE THE OVERLAY PAVEMENT LAYERS, THE PRIORITY LIST BELOW SHALL BE USED. EACH LAYER WILL BE USED UP TO ITS MAXIMUM THICKNESS BEFORE INCLUDING THE LAYER BELOW.

1. TOP A.C.H.M. SURFACE COURSE (2")
2. BOTTOM A.C.H.M. SURFACE COURSE (MAX. 2")
3. A.C.H.M. BINDER COURSE (MAX. 3")
4. A.C.H.M. BASE COURSE (MAX. 18")



US 63
SUPERELEVATION SECTION
NOTCH & WIDENING
NTS

TYPICAL SECTIONS OF IMPROVEMENT

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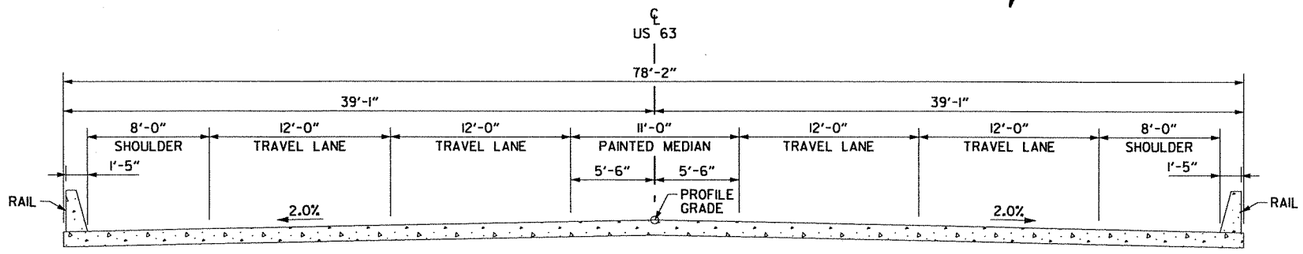
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				6	ARK.			
				JOB NO.		100687	6	252

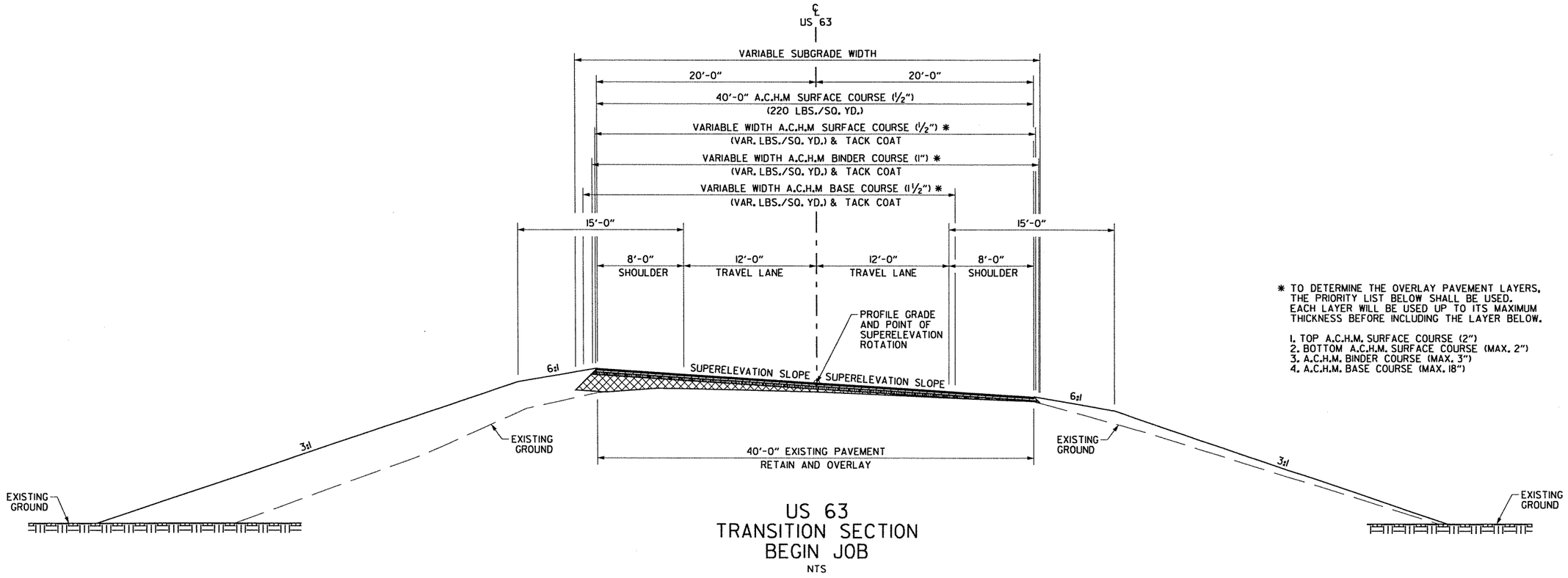
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHARRIAR ALI
08-27-2012

NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
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8. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.



US 63
BRIDGE SECTION
NTS



US 63
TRANSITION SECTION
BEGIN JOB
NTS

* TO DETERMINE THE OVERLAY PAVEMENT LAYERS, THE PRIORITY LIST BELOW SHALL BE USED. EACH LAYER WILL BE USED UP TO ITS MAXIMUM THICKNESS BEFORE INCLUDING THE LAYER BELOW.

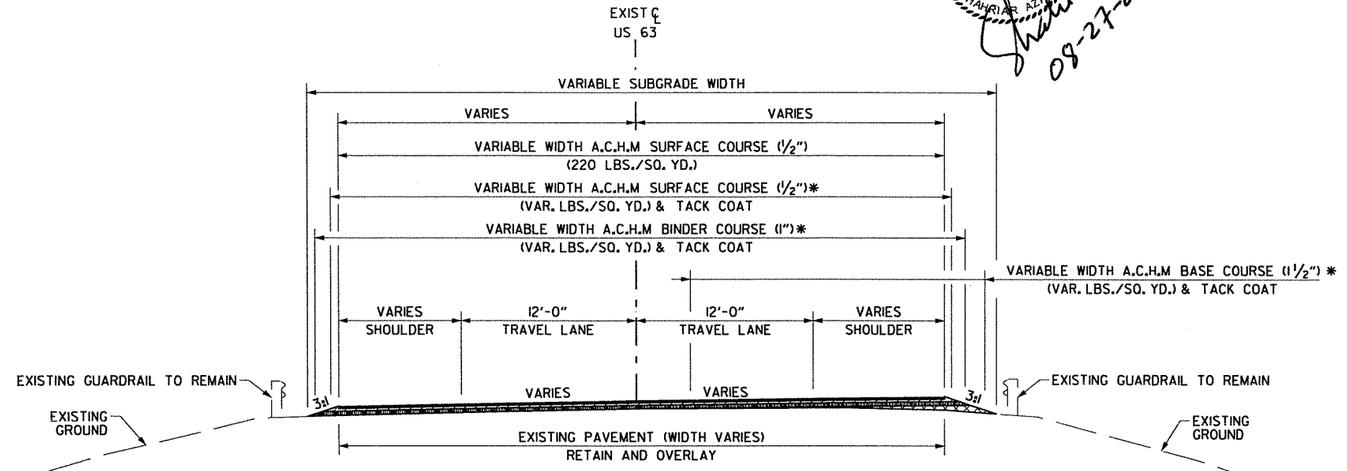
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3. A.C.H.M. BINDER COURSE (MAX. 3")
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	7	252

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 19404
SHAHRIAR AZAD
08-27-2012

NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
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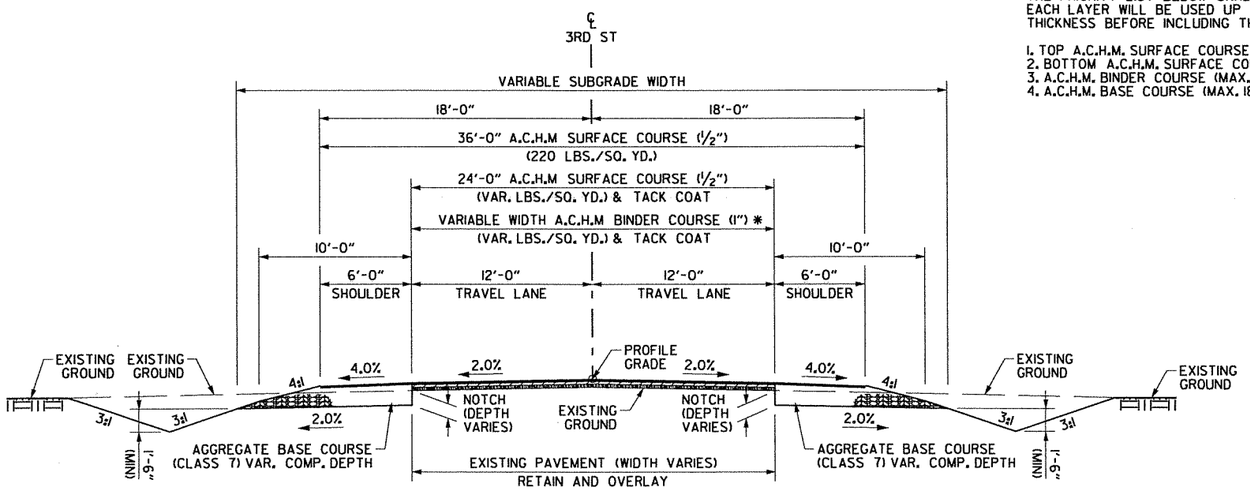


US 63 TRANSITION SECTION END JOB

NTS

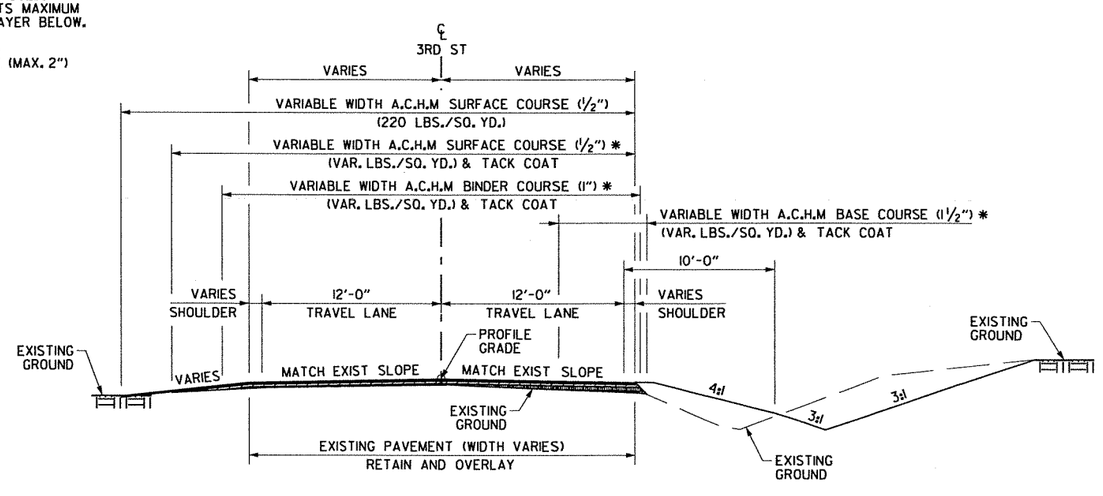
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2. BOTTOM A.C.H.M. SURFACE COURSE (MAX. 2")
3. A.C.H.M. BINDER COURSE (MAX. 3")
4. A.C.H.M. BASE COURSE (MAX. 18")



3RD ST

NTS



3RD ST TRANSITION SECTION END JOB

NTS

TYPICAL SECTIONS OF IMPROVEMENT

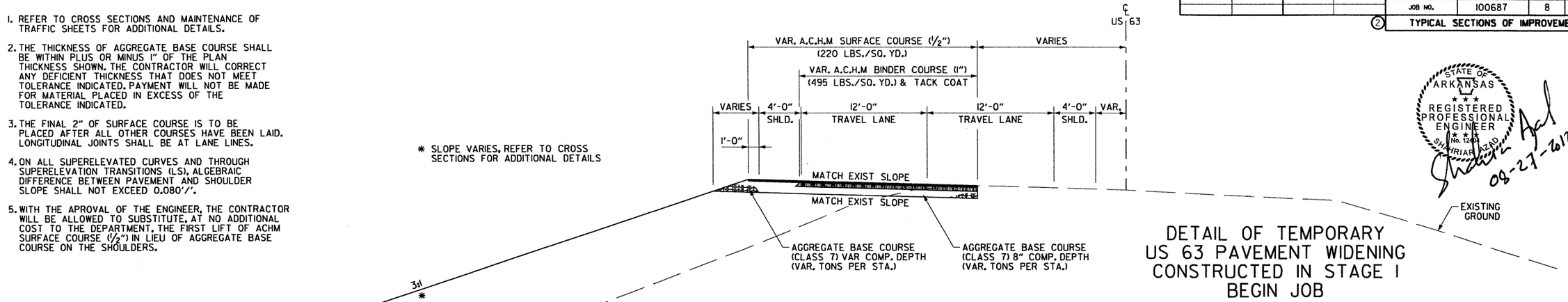
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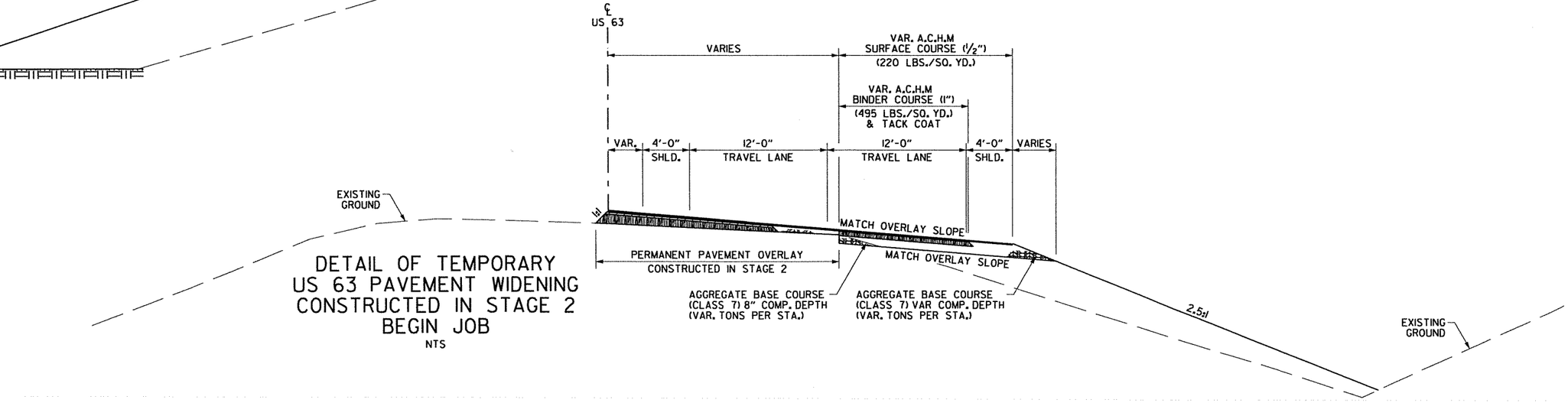
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(2) TYPICAL SECTIONS OF IMPROVEMENT

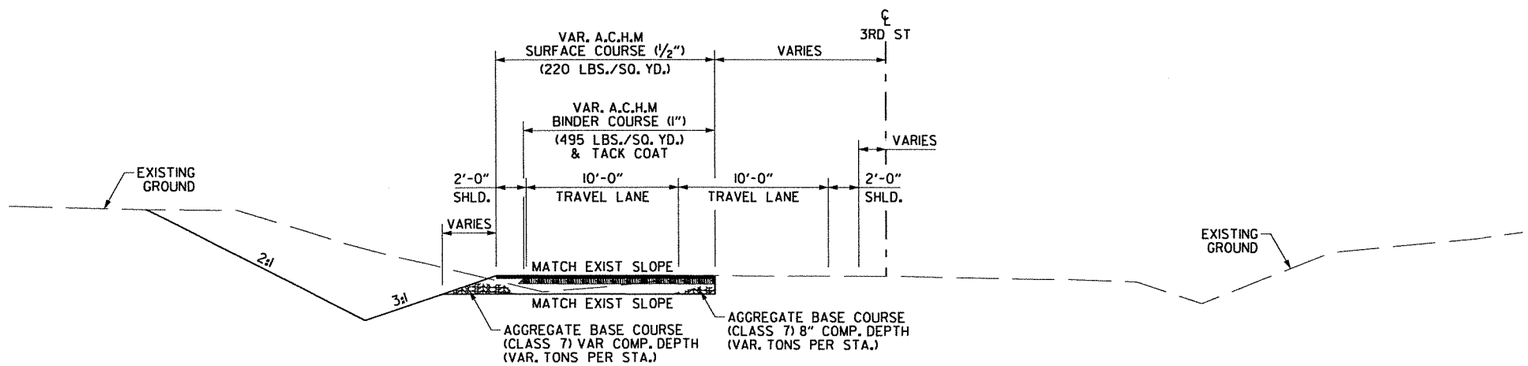
NOTES:
1. REFER TO CROSS SECTIONS AND MAINTENANCE OF TRAFFIC SHEETS FOR ADDITIONAL DETAILS.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
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DETAIL OF TEMPORARY US 63 PAVEMENT WIDENING CONSTRUCTED IN STAGE 1 BEGIN JOB
NTS



DETAIL OF TEMPORARY US 63 PAVEMENT WIDENING CONSTRUCTED IN STAGE 2 BEGIN JOB
NTS



DETAIL OF TEMPORARY 3RD ST PAVEMENT WIDENING CONSTRUCTED IN STAGE 2 END JOB
NTS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12401
SHAHRIAR AZAD
08-27-2012

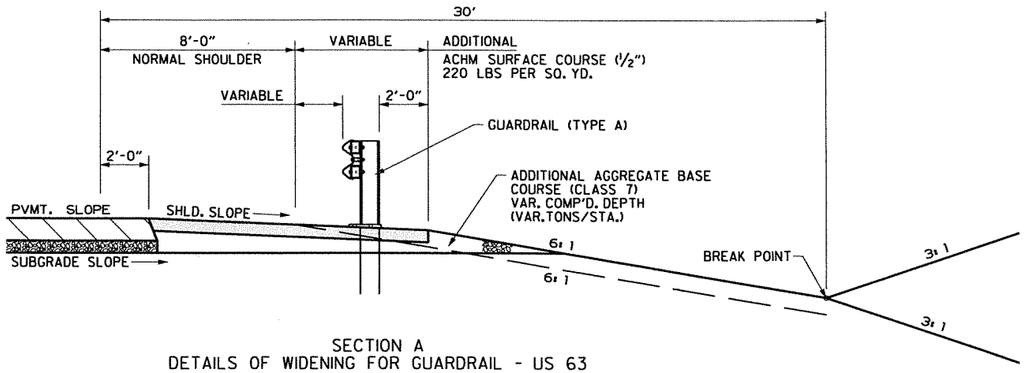
TYPICAL SECTIONS OF IMPROVEMENT

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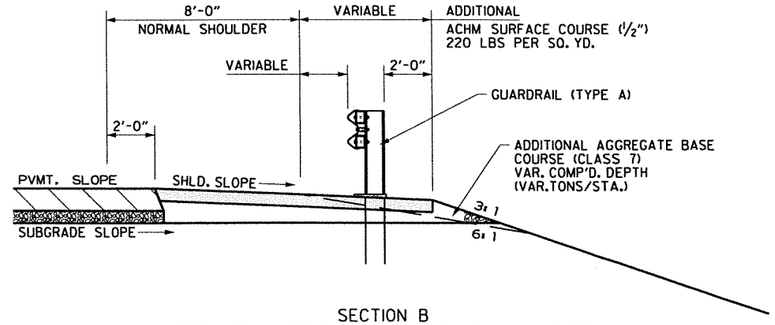
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(2) SPECIAL DETAILS

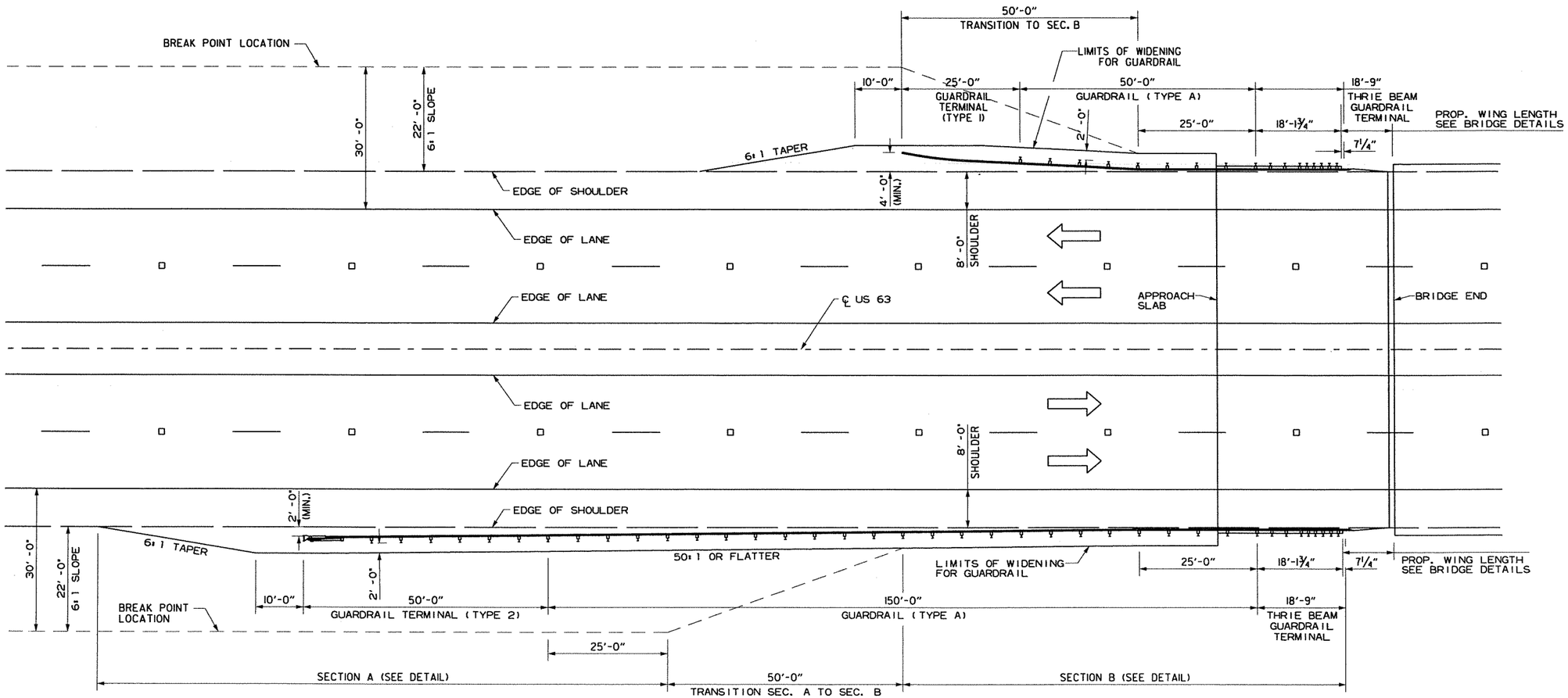


SECTION A
DETAILS OF WIDENING FOR GUARDRAIL - US 63
N.T.S.



SECTION B
DETAILS OF WIDENING FOR GUARDRAIL - US 63
N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012



TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS - US 63
N.T.S.

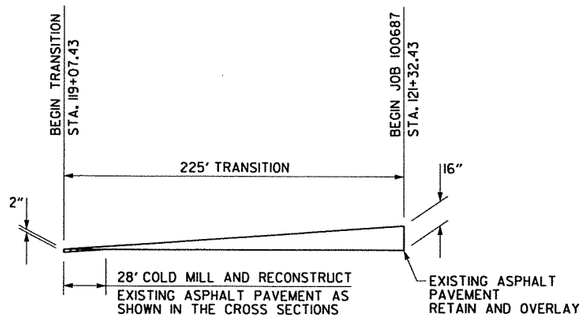
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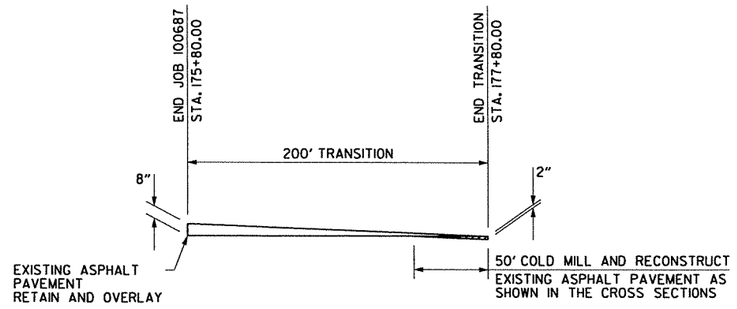
(2) SPECIAL DETAILS

US 63 TRANSITION BEGIN JOB



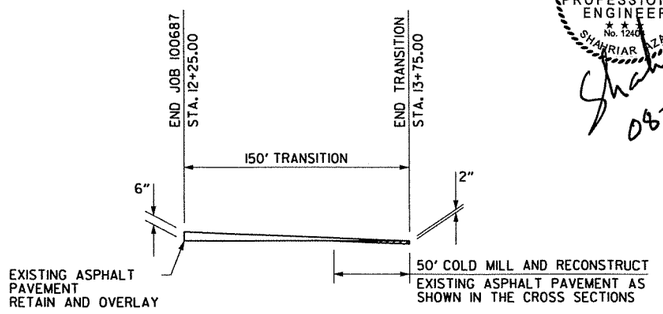
SPECIAL DETAIL
N.T.S.

US 63 TRANSITION END JOB



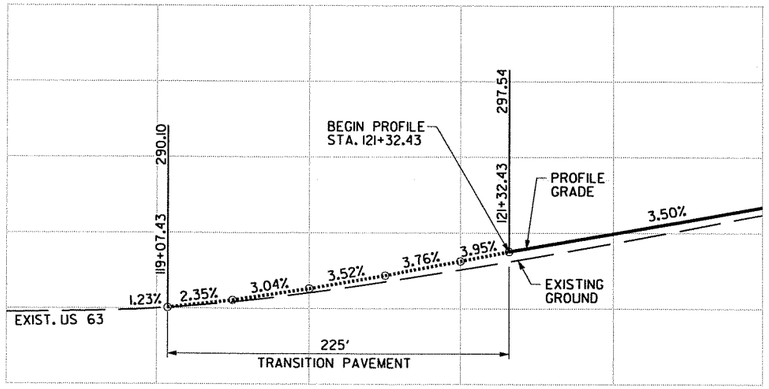
SPECIAL DETAIL
N.T.S.

3RD ST TRANSITION END JOB

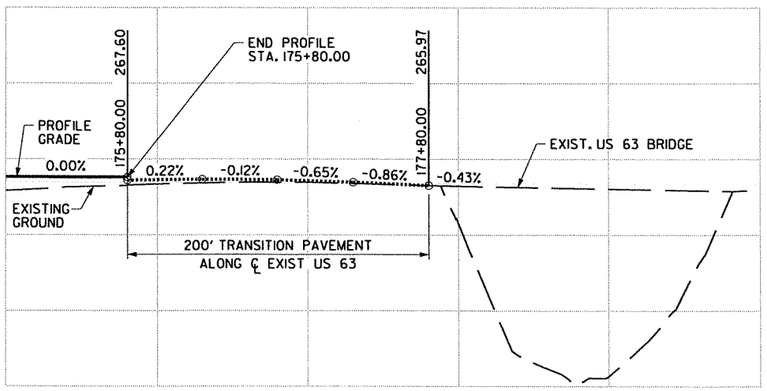


SPECIAL DETAIL
N.T.S.

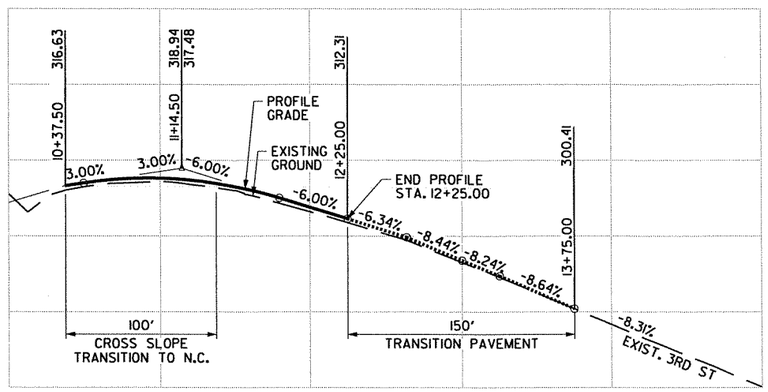
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12406
SHAHRIAR AZAD
08-27-2012



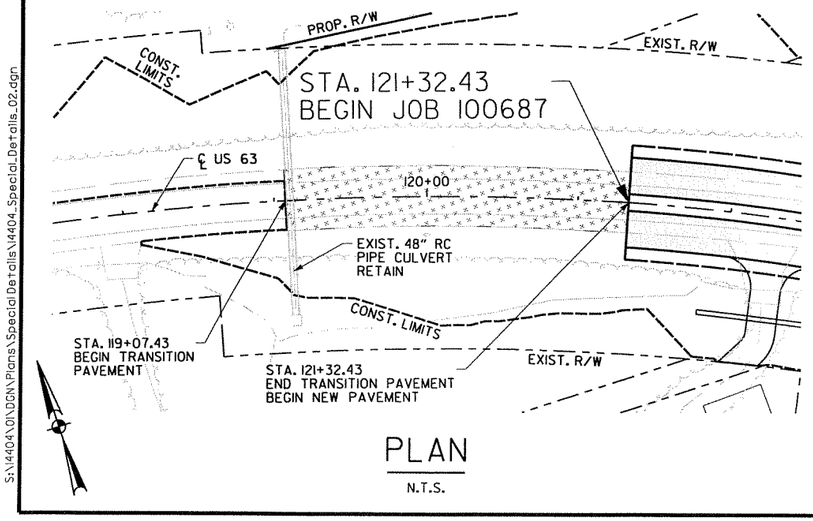
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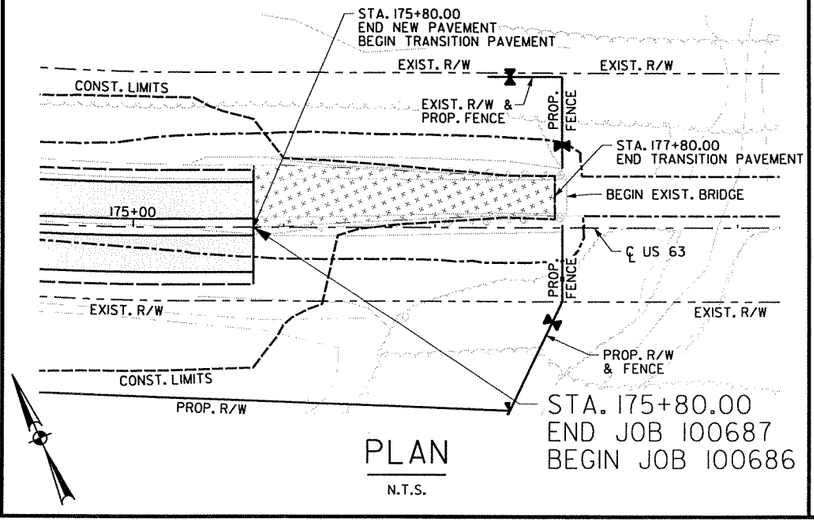
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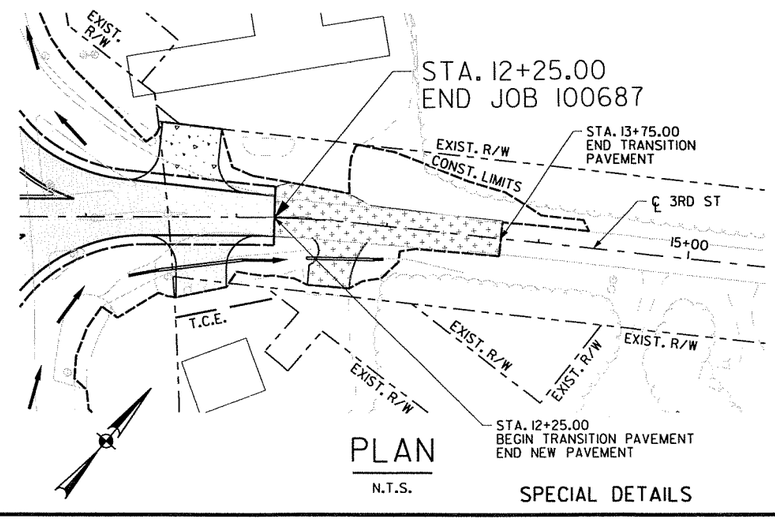
PROFILE
N.T.S.



PLAN
N.T.S.



PLAN
N.T.S.



PLAN
N.T.S.

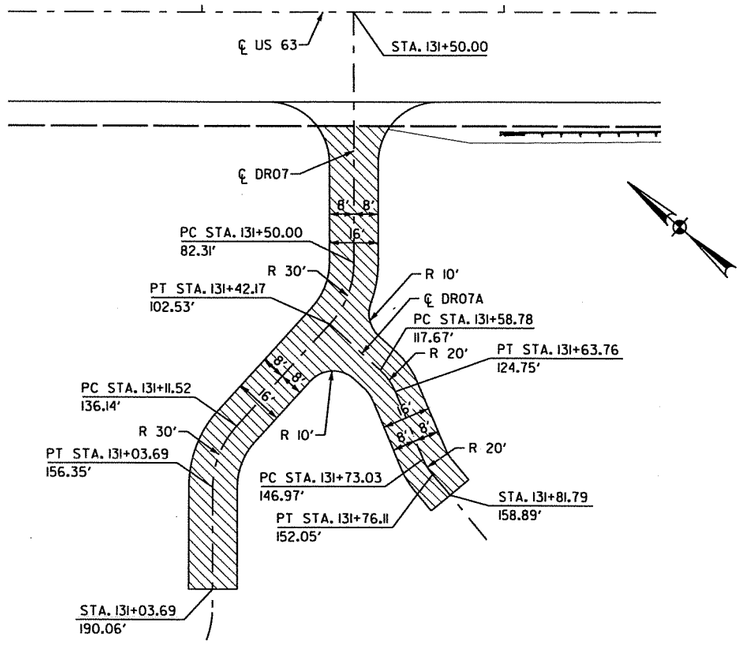
SPECIAL DETAILS

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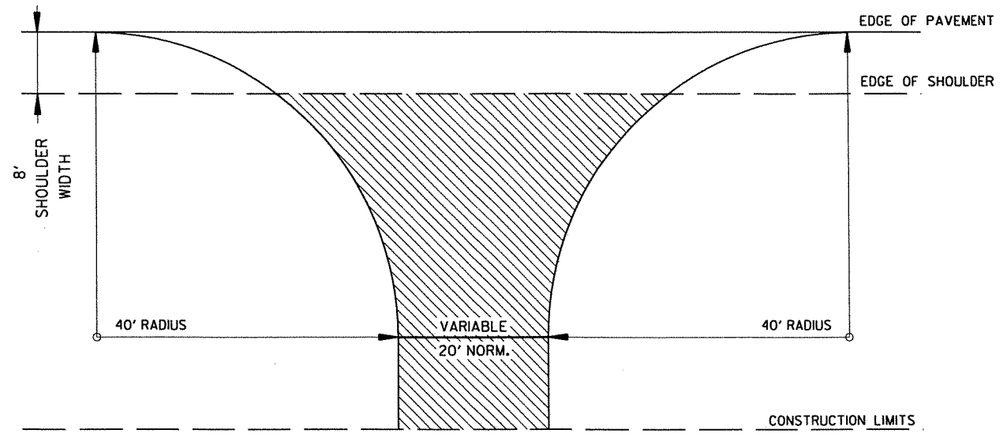
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
08-27-2012



DETAIL FOR DRIVEWAY DR07 AT US 63 STA. 131+50 (RT)

N.T.S.



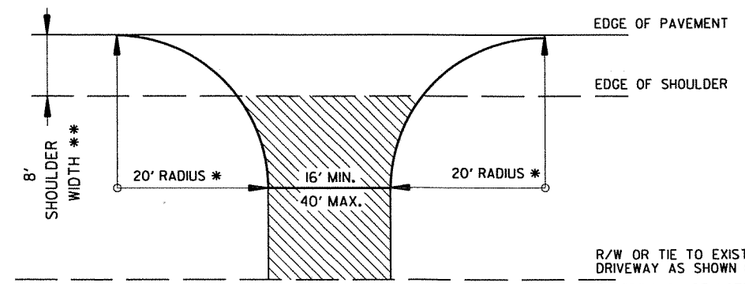
A.C.H.M SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH.

(FOR CONCRETE DRIVEWAYS USE 6" P.C. CONCRETE.)

(FOR AGGREGATE DRIVEWAYS USE 6" AGGREGATE BASE COURSE)

DETAIL FOR COUNTY ROAD TURNOUTS

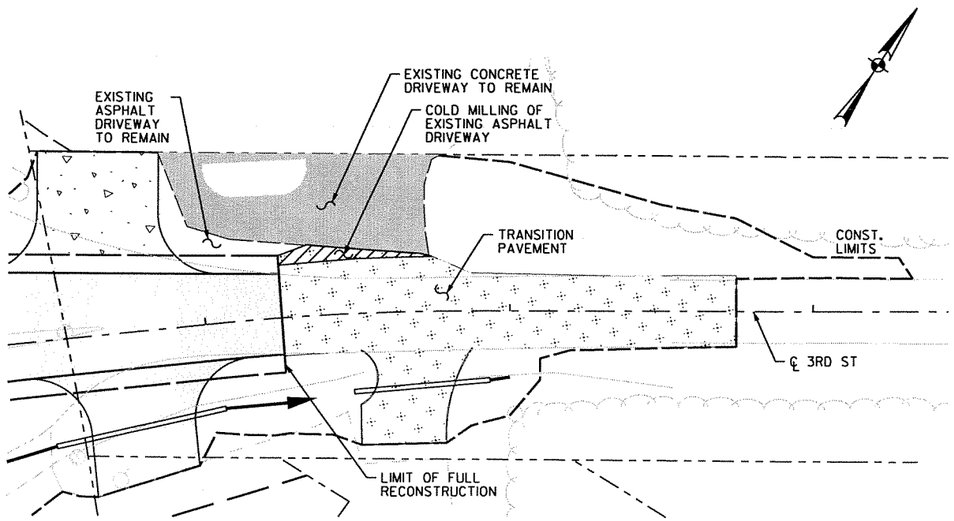
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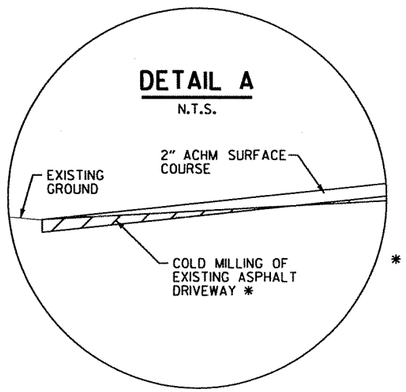


* EXCEPTIONS ARE NOTED ON PLANS.
** 6' FOR 3RD ST DRIVEWAYS.

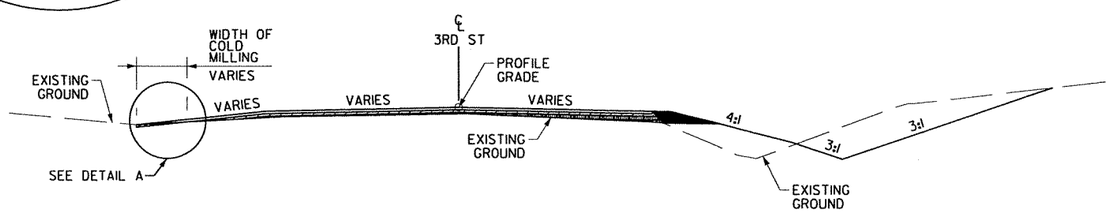
DETAIL FOR DRIVEWAY TURNOUTS

N.T.S.





* NOTE:
MINIMUM THICKNESS OF OVERLAY SHALL BE 2". COLD MILLING OF EXISTING ASPHALT DRIVEWAY SHALL BE PERFORMED WHERE THE DISTANCE BETWEEN THE TOP OF SURFACE COURSE AND THE TOP OF EXISTING DRIVEWAY IS LESS THAN 2".



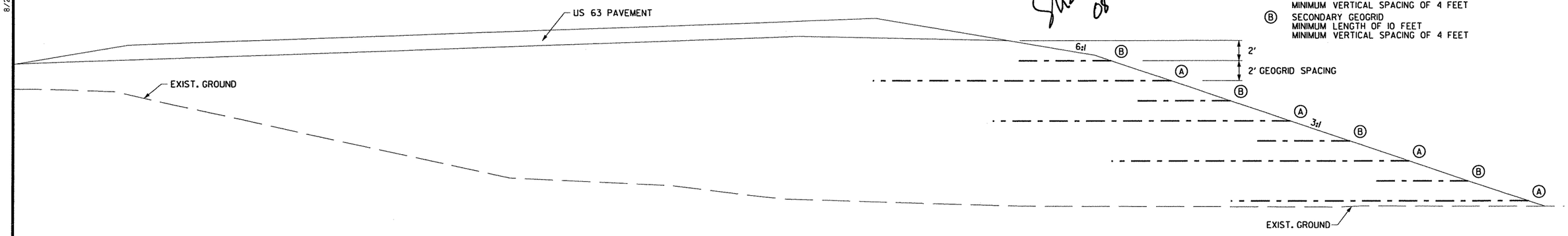
DETAILS FOR COLD MILLING OF EXISTING 3RD ST ASPHALT DRIVEWAY

N.T.S.

SPECIAL DETAILS

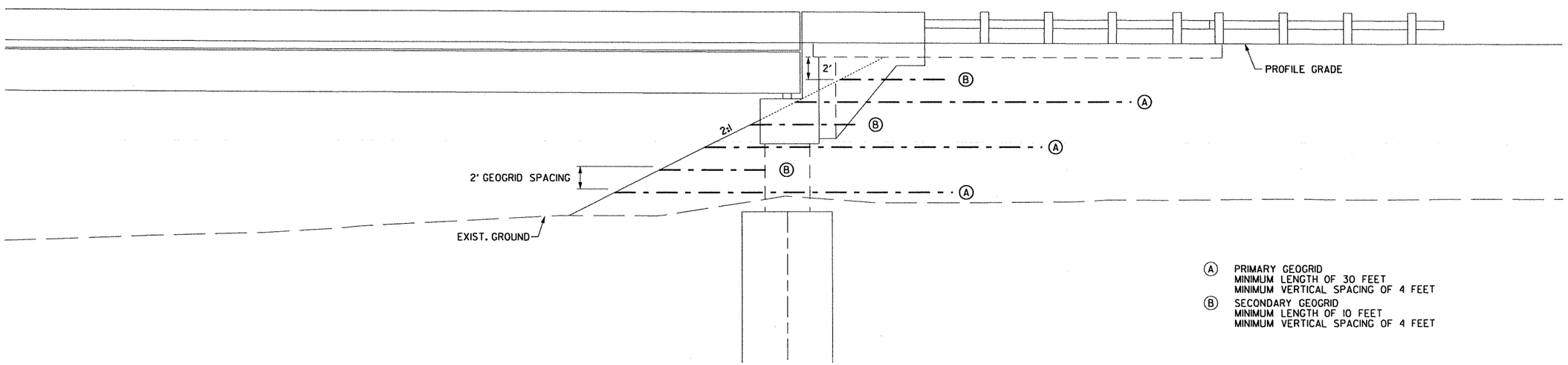
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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012



COMPACTED EMBANKMENT (SPECIAL)
STA. 160+09.55 - STA 175+80.00

N.T.S.



COMPACTED EMBANKMENT (SPECIAL)
US 63 BRIDGE EAST ABUTMENT
2:1 END SLOPE

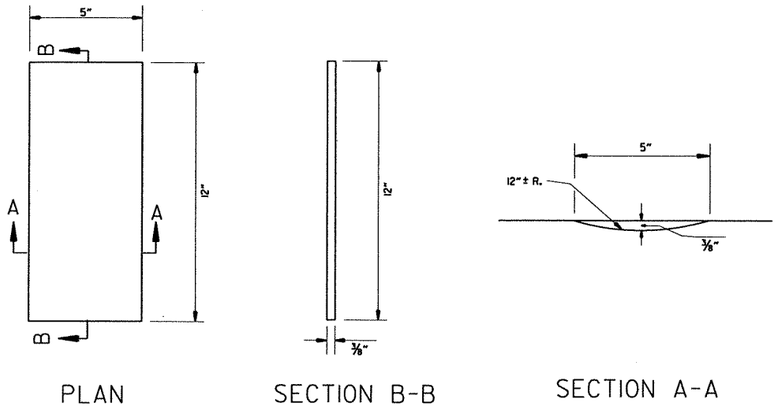
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				6	ARK.			
				JOB NO.		100687	13	252

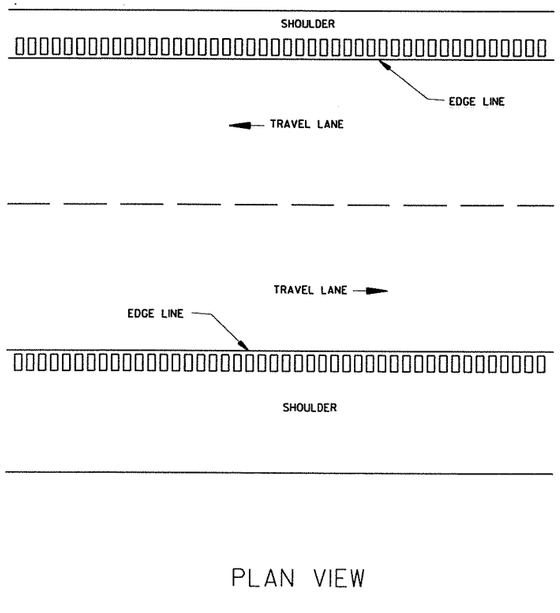
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

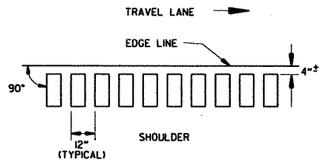


PLAN SECTION B-B SECTION A-A

DETAILS OF RUMBLE STRIPS



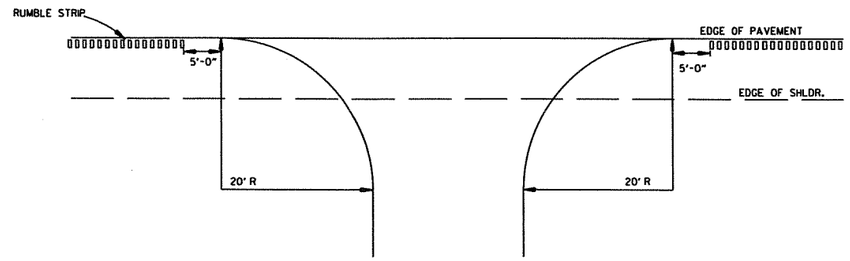
PLAN VIEW



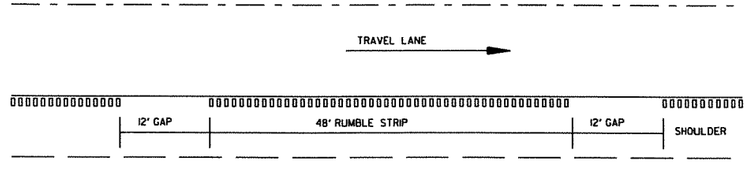
LOCATION PLAN OF RUMBLE STRIPS LEFT OR RIGHT SHOULDER

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
6. RUMBLE STRIPS SHALL BE CONSTRUCTED ON ALL PROPOSED US 63 SHOULDER PAVEMENT ON THE EAST SIDE OF THE BLACK RIVER BRIDGE WITH THE EXCEPTION OF THE AREAS LISTED ABOVE IN NOTES 1 AND 2 AND THOSE AREAS WHICH ARE EXCLUDED BY DETAILS SHOWN ON THIS SHEET. IN ADDITION TO THESE EXCLUDED AREAS, RUMBLE STRIPS SHALL ALSO BE OMITTED IN THE FOLLOWING AREAS:
   - PROPOSED SHOULDER PAVEMENT FOR WHICH THE REMAINING PAVED SHOULDER WIDTH BEYOND THE OUTSIDE EDGE OF A RUMBLE STRIP WOULD BE LESS THAN 4 FEET.



DETAIL FOR RUMBLE STRIP GAP AT DRIVEWAY TURNOUTS



DETAIL FOR GAP PATTERN RUMBLE STRIP

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

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REVISIONS

DATE	DESCRIPTION

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				6	ARK.			
				JOB NO.		100687	14	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR PIRAS

09-25-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

ST JOSEPH ST
6TH ST
HICKORY ST
LOCUST ST
EXIST US 63
S 8TH ST
℄ US 63
CONST. LIMITS
STA. 115+94.56 BEGIN E-11
STA. 121+05.42 END E-11
STA. 121+59.73 BEGIN E-11
STA. 122+70.44 END E-11
STA. 123+10.10 BEGIN E-11
STA. 124+73.51 END E-11
115+00
120+00
125+00
19+00
+45
+00

EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

STAGE 1
SHEET 1 OF 1
TEMPORARY EROSION CONTROL DETAILS

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REVISIONS

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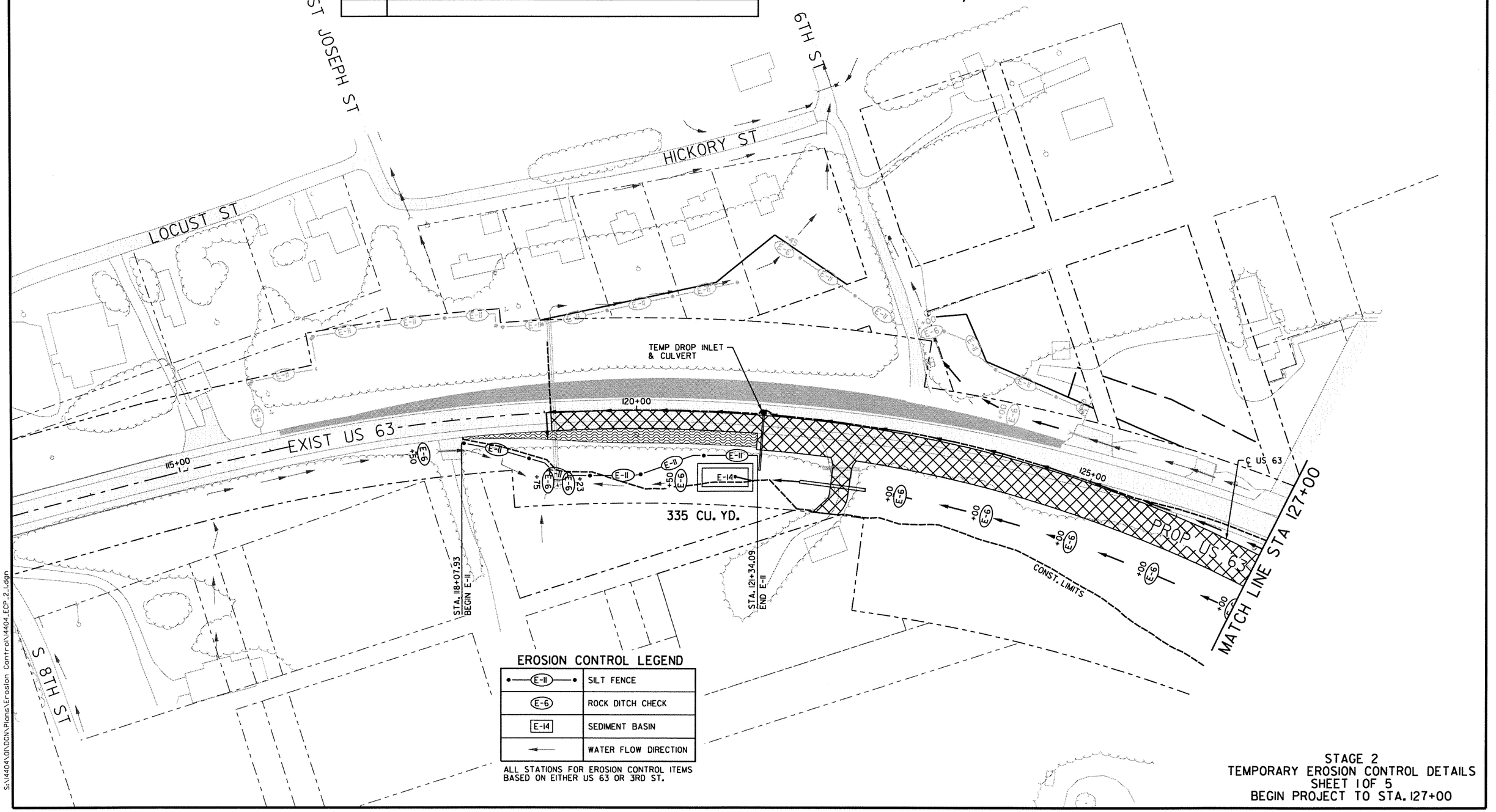
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				JOB NO.		100687	15	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12484
SHANNON L. ZANO
09-25-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
SHEET 1 OF 5
BEGIN PROJECT TO STA. 127+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	16	252

(2) TEMPORARY EROSION CONTROL DETAILS

EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

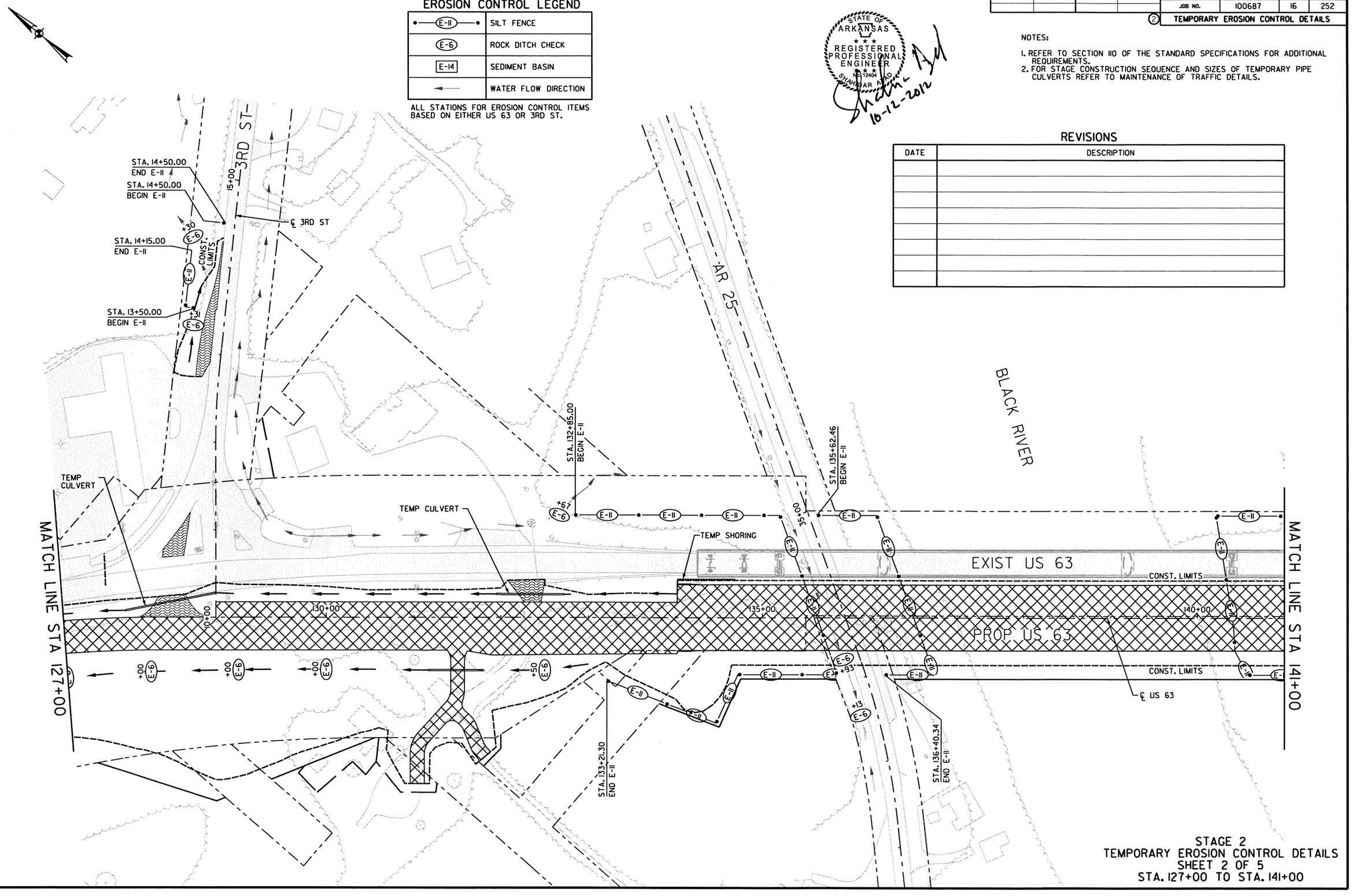
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAWN A. MAR
10-12-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

REVISIONS

DATE	DESCRIPTION



STAGE 2
TEMPORARY EROSION CONTROL DETAILS
SHEET 2 OF 5
STA. 127+00 TO STA. 141+00

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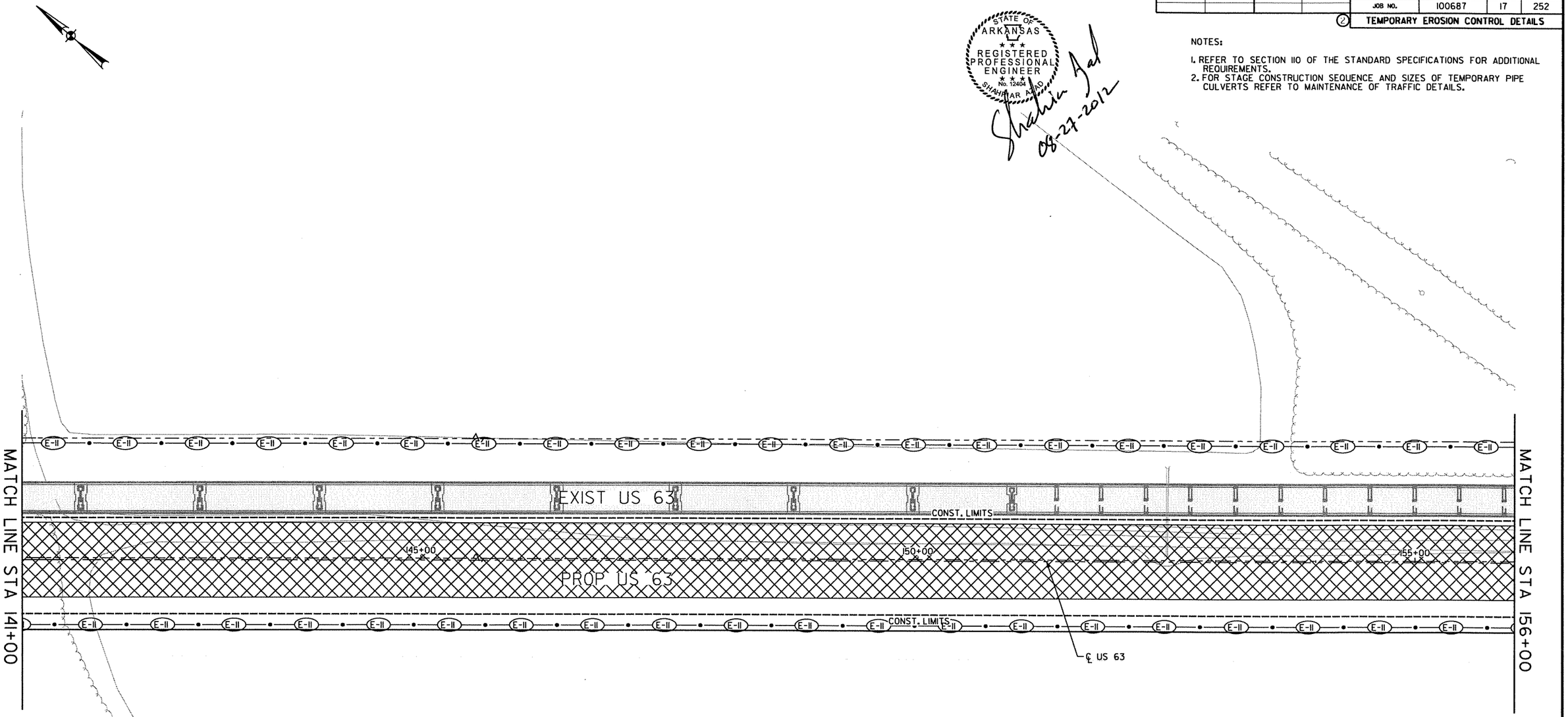
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				6	ARK.			
				JOB NO.		100687	17	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHNAWAR AHAD
08-27-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
SHEET 3 OF 5
STA. 141+00 TO STA. 156+00

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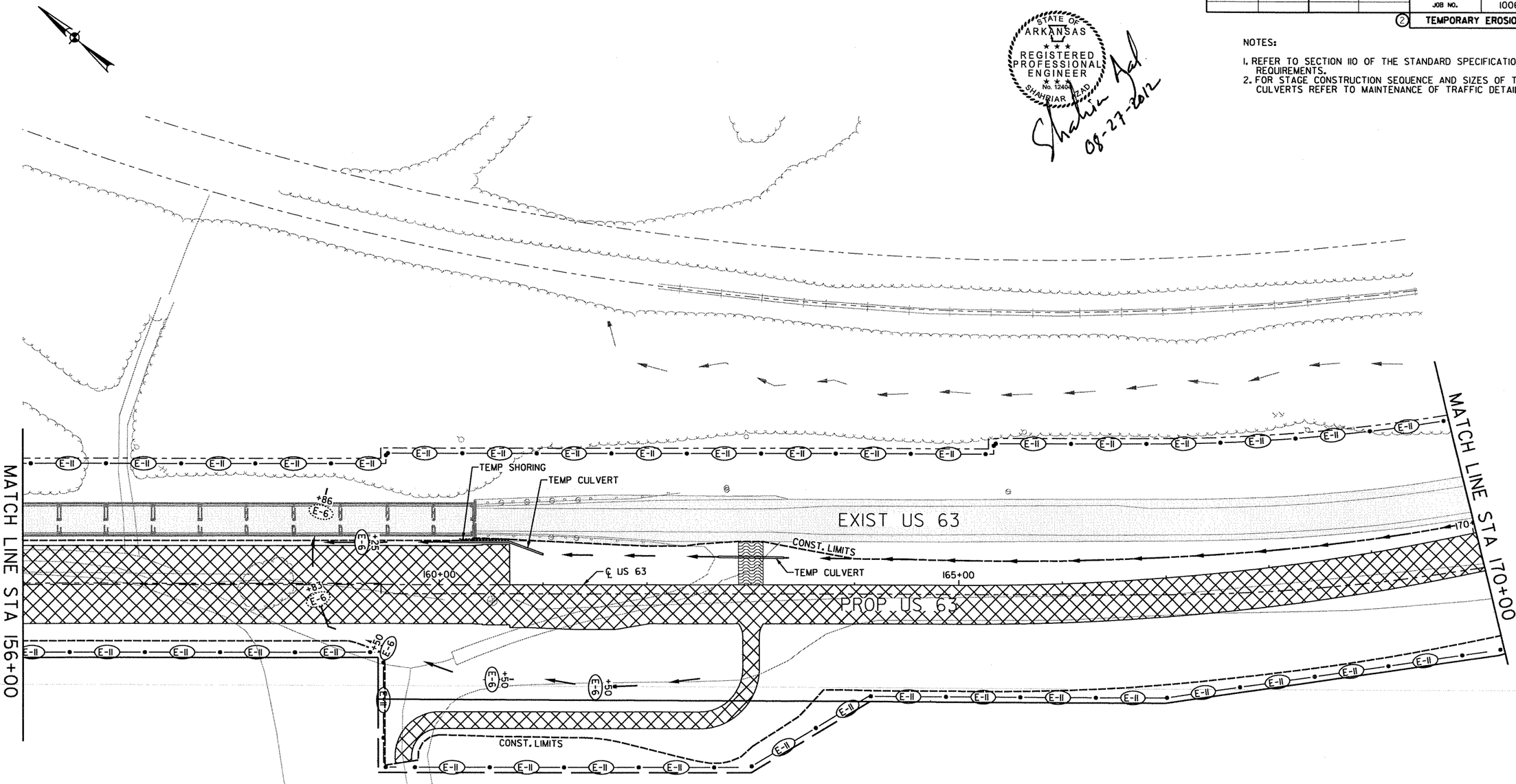
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				JOB NO.		100687	18	252

(2) TEMPORARY EROSION CONTROL DETAILS

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
08-27-2012



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
SHEET 4 OF 5
STA. 156+00 TO STA. 170+00

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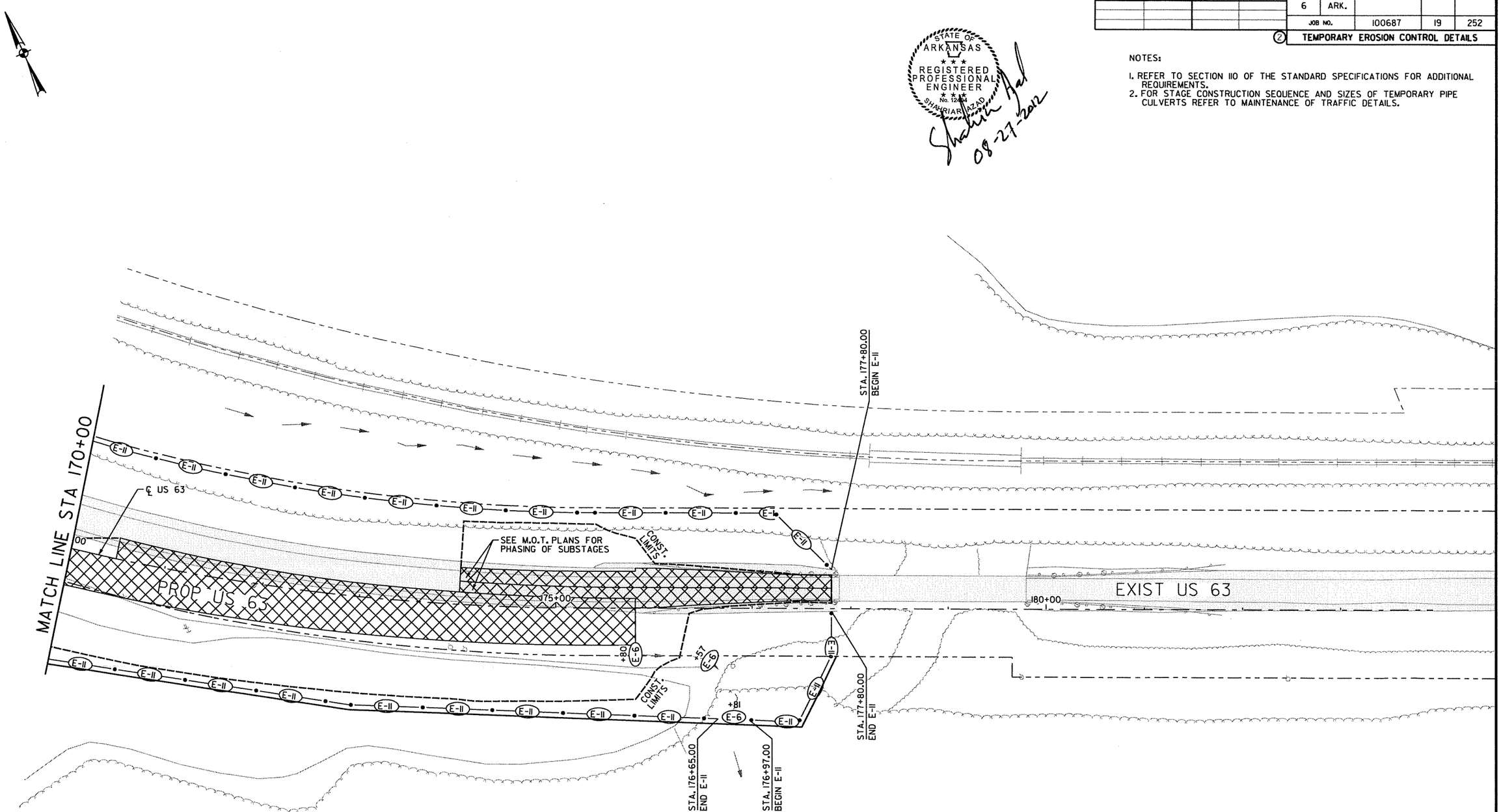
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				JOB NO.		100687	19	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHAHRIAR AZAD
08-27-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 2
(INCLUDING M.O.T. SUBSTAGES 2B & 2C)
TEMPORARY EROSION CONTROL DETAILS
SHEET 5 OF 5
STA. 170+00 TO END PROJECT

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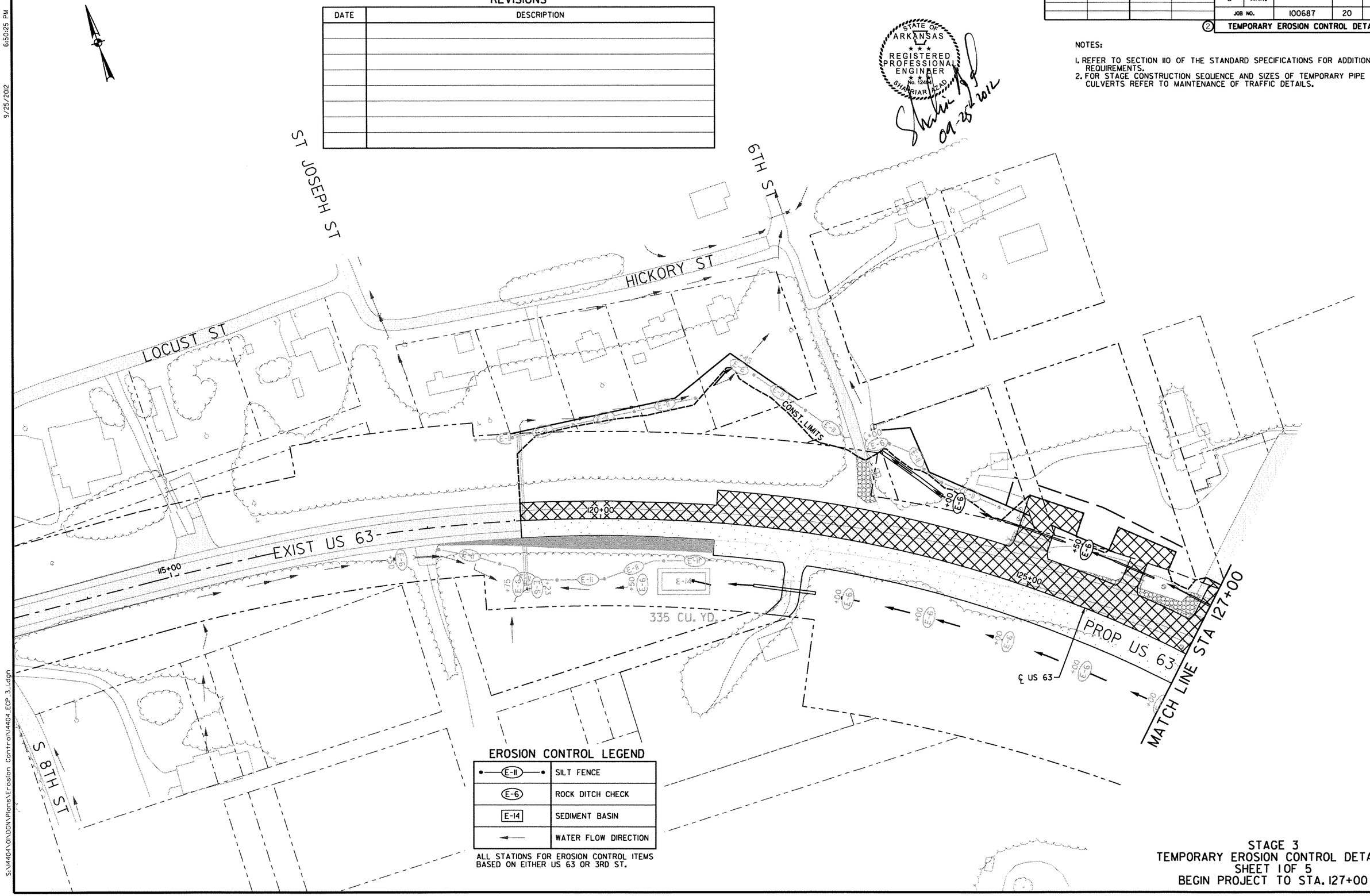
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JOB NO.		100687	20	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHARIAR ARAD
09-25-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
←	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

STAGE 3
TEMPORARY EROSION CONTROL DETAILS
SHEET 1 OF 5
BEGIN PROJECT TO STA. 127+00

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				6	ARK.			
				JOB NO.		100687	21	252
				(2)	TEMPORARY EROSION CONTROL DETAILS			

EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

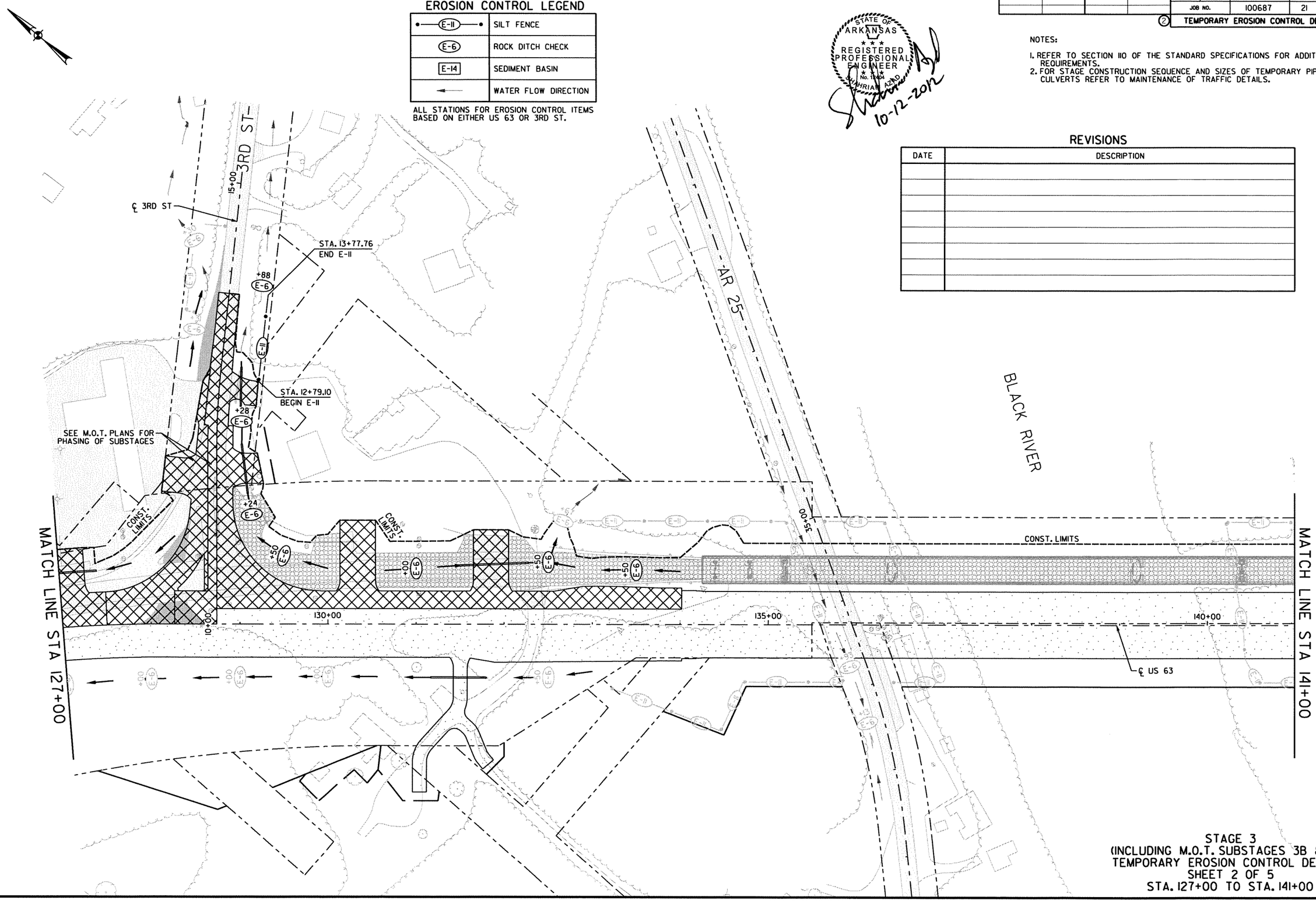
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17404
SHAHRIAR AZAD
10-12-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

REVISIONS

DATE	DESCRIPTION



STAGE 3
(INCLUDING M.O.T. SUBSTAGES 3B & 3C)
TEMPORARY EROSION CONTROL DETAILS
SHEET 2 OF 5
STA. 127+00 TO STA. 141+00

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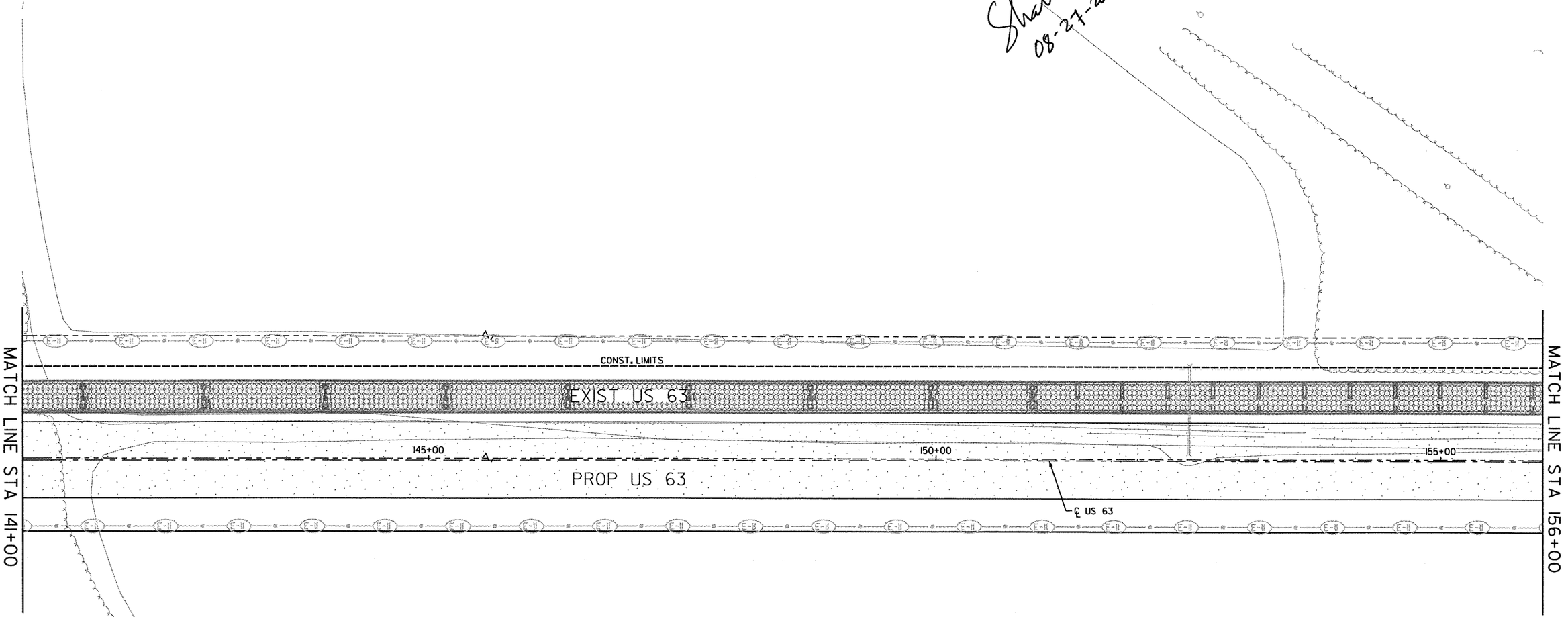
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				JOB NO.		100687	22	252

(2) TEMPORARY EROSION CONTROL DETAILS

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17404
SHAHRIAR AZAD
08-27-2012



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 3
TEMPORARY EROSION CONTROL DETAILS
SHEET 3 OF 5
STA. 141+00 TO STA. 156+00

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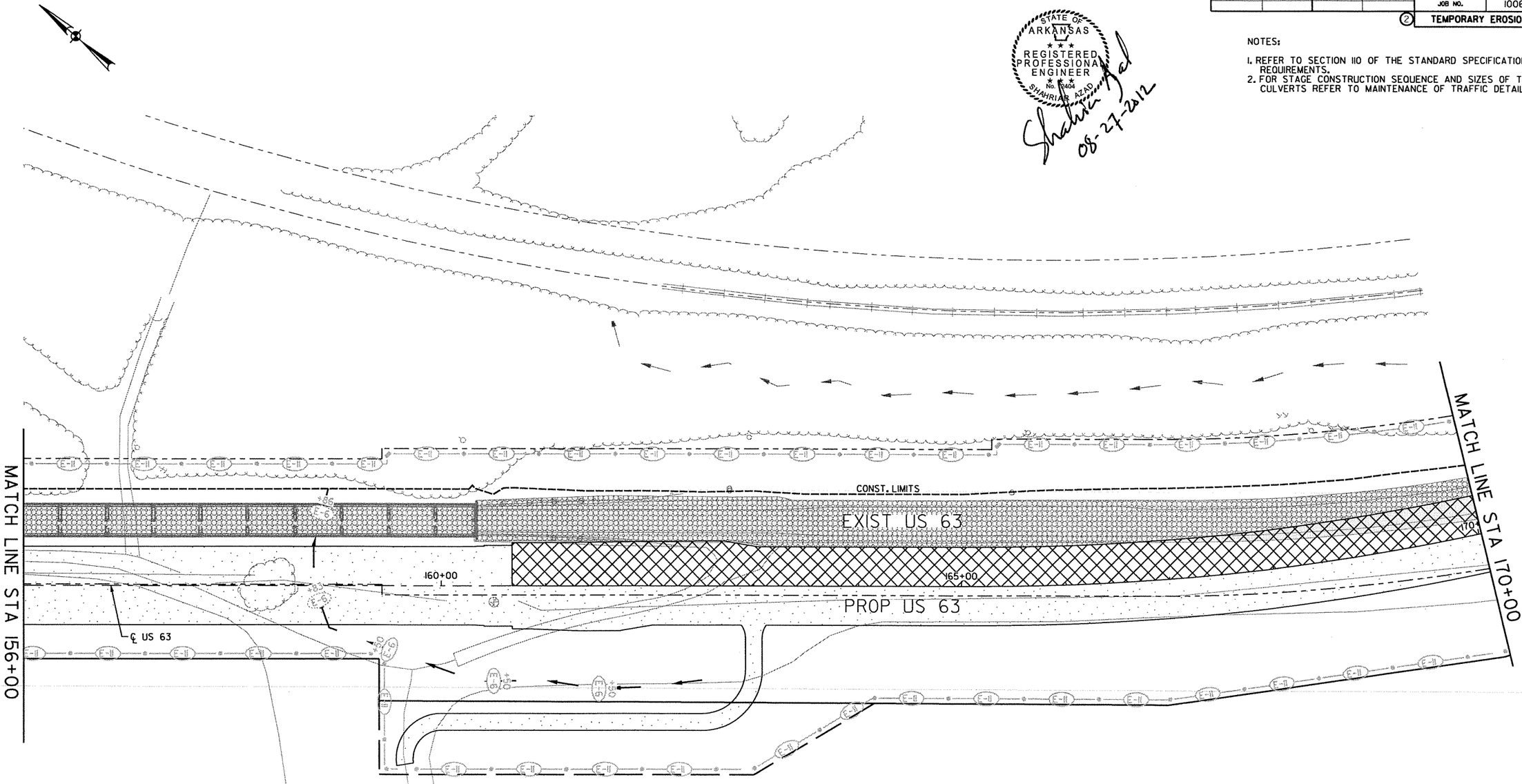
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				6	ARK.			
				JOB NO.		100687	23	252

(2) TEMPORARY EROSION CONTROL DETAILS

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 3
TEMPORARY EROSION CONTROL DETAILS
SHEET 4 OF 5
STA. 156+00 TO STA. 170+00

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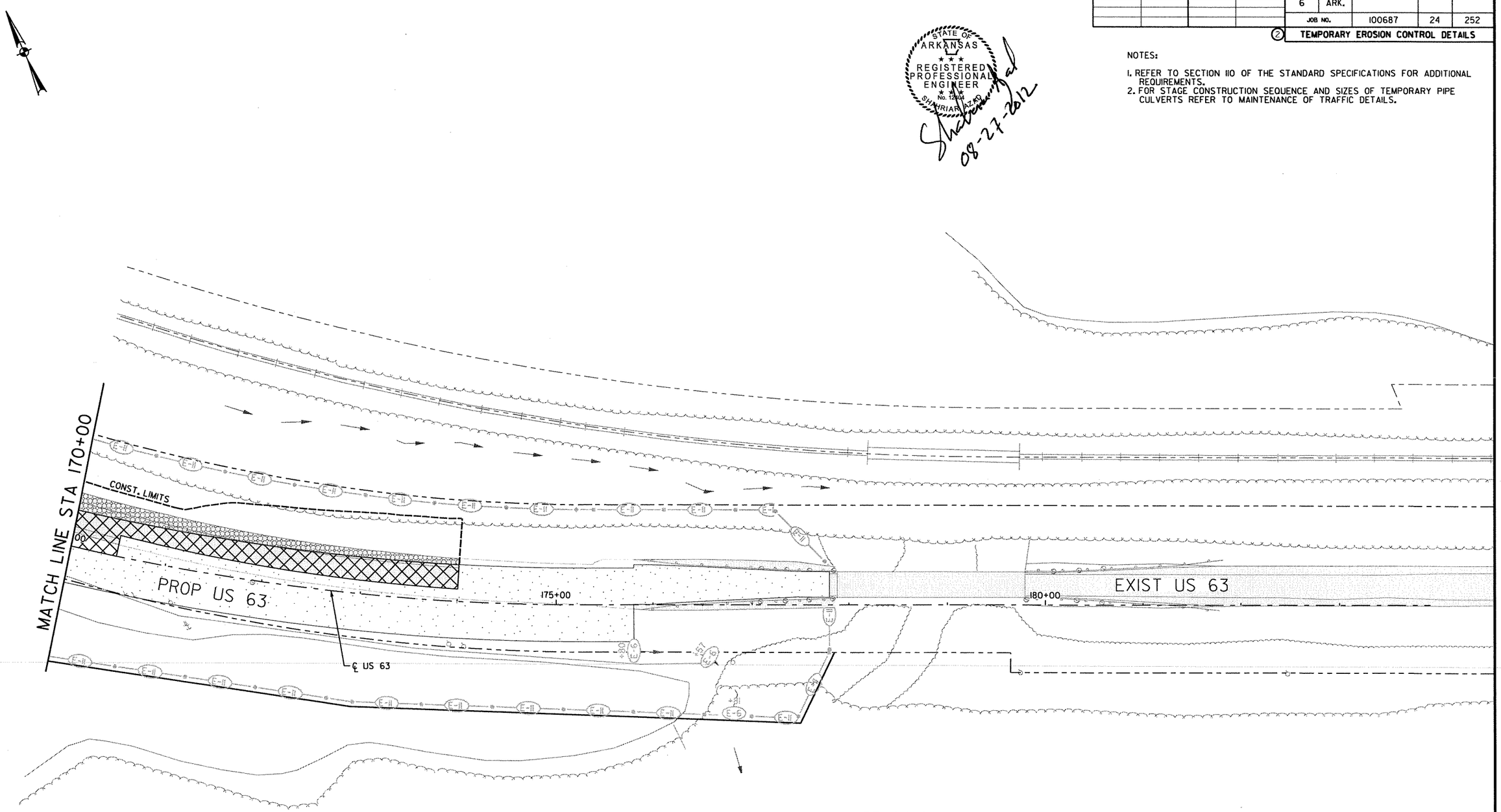
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				JOB NO.		100687	24	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

NOTES:

1. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FOR STAGE CONSTRUCTION SEQUENCE AND SIZES OF TEMPORARY PIPE CULVERTS REFER TO MAINTENANCE OF TRAFFIC DETAILS.



EROSION CONTROL LEGEND

E-11	SILT FENCE
E-6	ROCK DITCH CHECK
E-14	SEDIMENT BASIN
	WATER FLOW DIRECTION

ALL STATIONS FOR EROSION CONTROL ITEMS BASED ON EITHER US 63 OR 3RD ST.

REVISIONS

DATE	DESCRIPTION

STAGE 3
TEMPORARY EROSION CONTROL DETAILS
SHEET 5 OF 5
STA. 170+00 TO END PROJECT

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				JOB NO.		100687	25	252
				(2)	MAINTENANCE OF TRAFFIC			

LEGEND

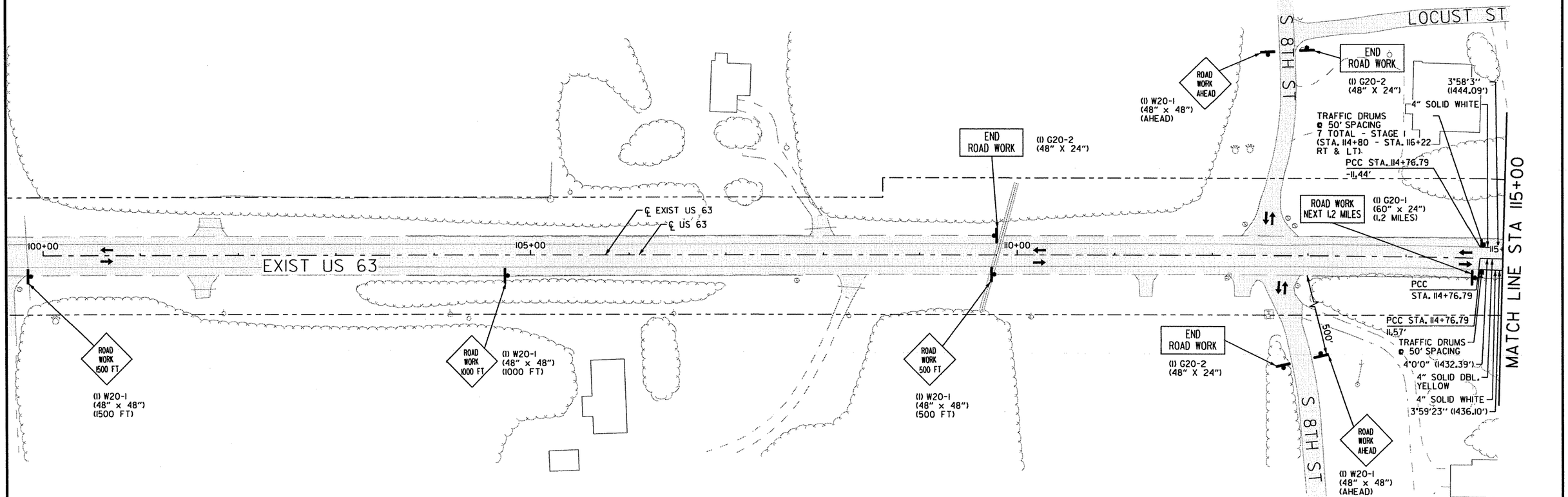
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- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

CONSTRUCTION PAVEMENT MARKINGS

US 63
LT & RT 4" SOLID WHITE STA. 114+76 TO STA. 132+56
CENTERLINE DBL. 4" SOLID YELLOW STA. 114+76 TO STA. 132+56



STAGE I
MAINTENANCE OF TRAFFIC
SHEET 1 OF 6
BEGIN PROJECT TO STA. 115+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	26	252
				②	MAINTENANCE OF TRAFFIC			

6:50:28 PM
9/25/2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-25-2012

SEQUENCE OF TRAFFIC NOTES

STAGE I
- CONSTRUCT TEMP PAVEMENT ON NORTH SIDE OF EXIST US 63 FROM STA. 116+14 TO STA. 124+61

EXIST ℄ US 63
PROP ℄ US 63
3'
4' 12' 12' 4'
WORK ZONE
2.5:1
DRUM

SECTION A-A
STAGE I
N.T.S.

(1) RII-2 (48" x 30")
ROAD CLOSED
8' BARR. TYP. III LT.
(1) RII-2 (48" x 30")
ROAD CLOSED
8' BARR. TYP. III LT.
8' BARR. TYP. III RT.
6TH ST
HICKORY ST
LOCUST ST
MATCH LINE STA 115+00
MATCH LINE STA 127+00
EXIST US 63
CONST. LIMITS
PRC STA. 116+86.44
-20.26'
4°13'3" (1358.52')
PC STA. 116+14.55
-19.85'
STA. 116+14.56
-14.00'
PRC STA. 115+77.24
-9.74'
3°58'3" (1444.09')
00
4°0'0" (1432.39')
PRC STA. 116+14.56
3.00'
PRC STA. 115+71.66
2.04'
PRC STA. 115+76.33
14.24'
TRAFFIC DRUMS @ 50' SPACING
3°59'23" (1436.10')
4°0'0" (1432.39')
BEGIN 2.5:1 FRONT SLOPE
STA. 118+50.00, -67.28'
END 2.5:1 FRONT SLOPE
STA. 120+50.00, -108.60'
PCC STA. 121+32.42
-36.00'
PT STA. 122+87.86
-36.00'
3°54'7" (1468.39')
3°57'11" (1449.39')
3°8'23" (1824.85')
120+00
4" SOLID DBL. YELLOW
PCC STA 120+02.43, 3.00'
PC STA. 122+87.51
-35.00'
4" SOLID WHITE
2°55'37" (1957.46')
14' FROM EXIST ℄
TRAFFIC DRUMS @ 100' SPACING 26 TOTAL - STAGE I (STA. 117+03 - STA. 130+18 RT & LT)
3°54'17" (1,467.39')
PT STA. 124+60.88
-35.00'
STA. 124+58.11
-31.44'
STA. 124+58.11
-25.88'
125+00
℄ EXIST US 63
℄ US 63
PCC STA 126+58.11, 3.00'
6°22'34" (898.60')

EXIST ℄ US 63
PROP ℄ US 63
3'
4' 12' 12' 4'
WORK ZONE
3:1
DRUM

SECTION B-B
STAGE I
N.T.S.

STAGE I
MAINTENANCE OF TRAFFIC
SHEET 2 OF 6
STA. 115+00 TO STA. 127+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	27	252

(2) MAINTENANCE OF TRAFFIC

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-12-2012

MATCH LINE A

MATCH LINE B

3RD ST

15+00

℄ 3RD ST

SHOULDER CLOSED

(1) RSP-1 (48" x 30")

EXIST ℄ US 63

PROP ℄ US 63

3'
4' 12' 12' 4'
DRUM

SECTION C-C
STAGE I
N.T.S.

AR 25

SHOULDER CLOSED

(1) RSP-1 (48" x 30")

C

C

TRAFFIC DRUMS @ 50' SPACING 5 TOTAL - STAGE I (STA. 130+77 - STA. 133+29 RT)

12'
12'

1°12'38" (4733.48')

3°22'1" (1701.78')

1°4'26" (5335.79')

10+00

130+00

135+00

140+00

℄ EXIST US 63

℄ US 63

PCC STA 127+17.37, 3.00'

PCC STA 128+58.08, 3.00'

PCC STA 129+75.81, 3.00'

PT STA 130+75.55, 3.00'

STA 132+55.47'

TRAFFIC DRUMS @ 100' SPACING

6°22'34" (898.60')

MATCH LINE STA 127+00

3RD ST

500'

ROAD WORK 1500 FT

(1) W20-1 (48" x 48") (1500 FT)

500'

ROAD WORK 1000 FT

(1) W20-1 (48" x 48") (1000 FT)

ROAD WORK 500 FT

(1) W20-1 (48" x 48") (500 FT)

END ROAD WORK

(1) G20-2 (48" X 24")

AR 25

MATCH LINE A

MATCH LINE B

BLACK RIVER

35+00

℄ AR 25

EXIST US 63

MATCH LINE STA 141+00

500'

ROAD WORK 500 FT

(1) W20-1 (48" x 48") (500 FT)

500'

ROAD WORK 1000 FT

(1) W20-1 (48" x 48") (1000 FT)

500'

ROAD WORK 1500 FT

(1) W20-1 (48" x 48") (1500 FT)

(1) G20-2 (48" X 24")

END ROAD WORK

STAGE I
MAINTENANCE OF TRAFFIC
SHEET 3 OF 6
STA. 127+00 TO STA. 141+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	28	252
				(2)	MAINTENANCE OF TRAFFIC			

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

MATCH LINE STA 141+00

EXIST US 63

℄ EXIST US 63

145+00

150+00

155+00

℄ US 63

MATCH LINE STA 156+00

STAGE I
MAINTENANCE OF TRAFFIC
SHEET 4 OF 6
STA. 141+00 TO STA. 156+00

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LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

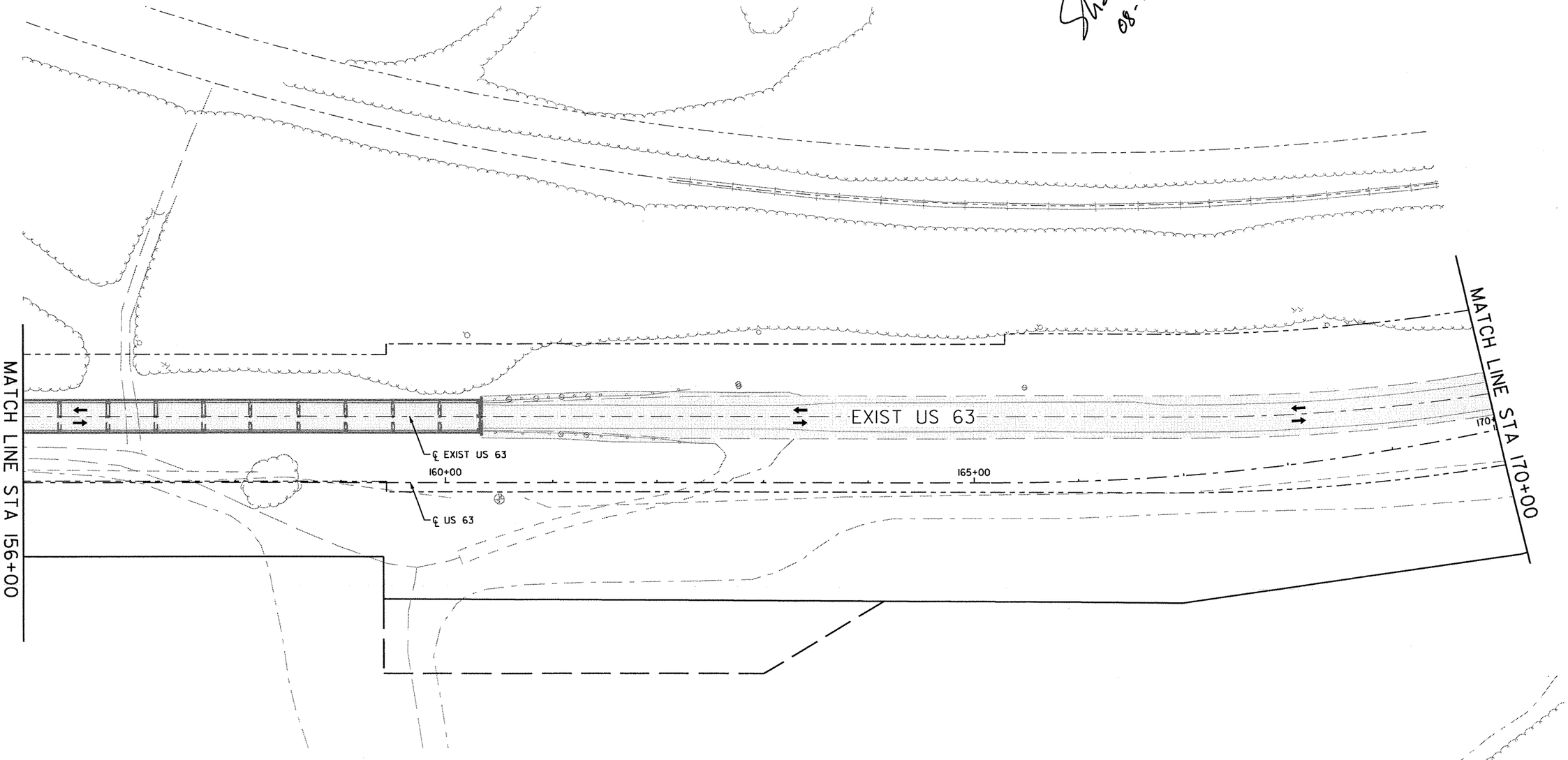
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	29	252

(2) MAINTENANCE OF TRAFFIC



STAGE I
MAINTENANCE OF TRAFFIC
SHEET 5 OF 6
STA. 156+00 TO STA. 170+00

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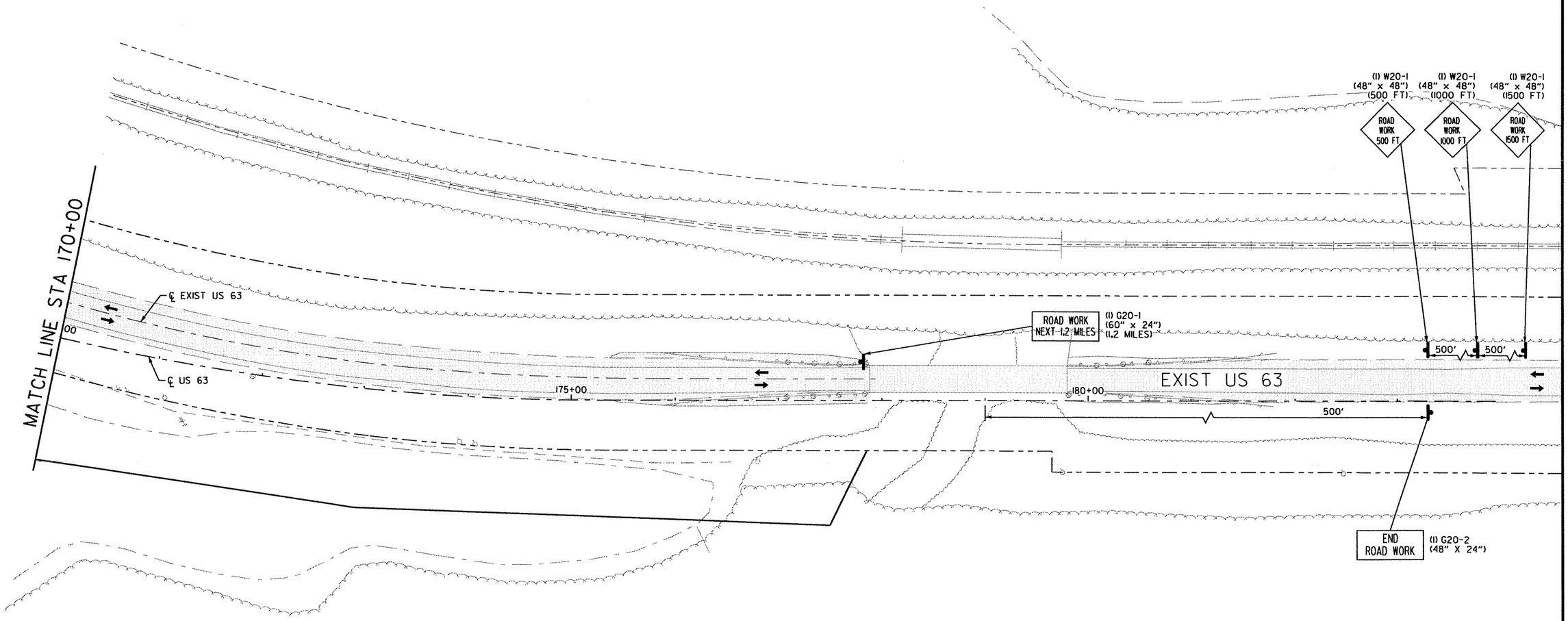
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	30	252
				②	MAINTENANCE OF TRAFFIC			

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SHAHRIAR ADAD
No. 12404
08-27-2012



STAGE I
MAINTENANCE OF TRAFFIC
SHEET 6 OF 6
STA. 170+00 TO END PROJECT

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8/27/2012 11:59:26 AM

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

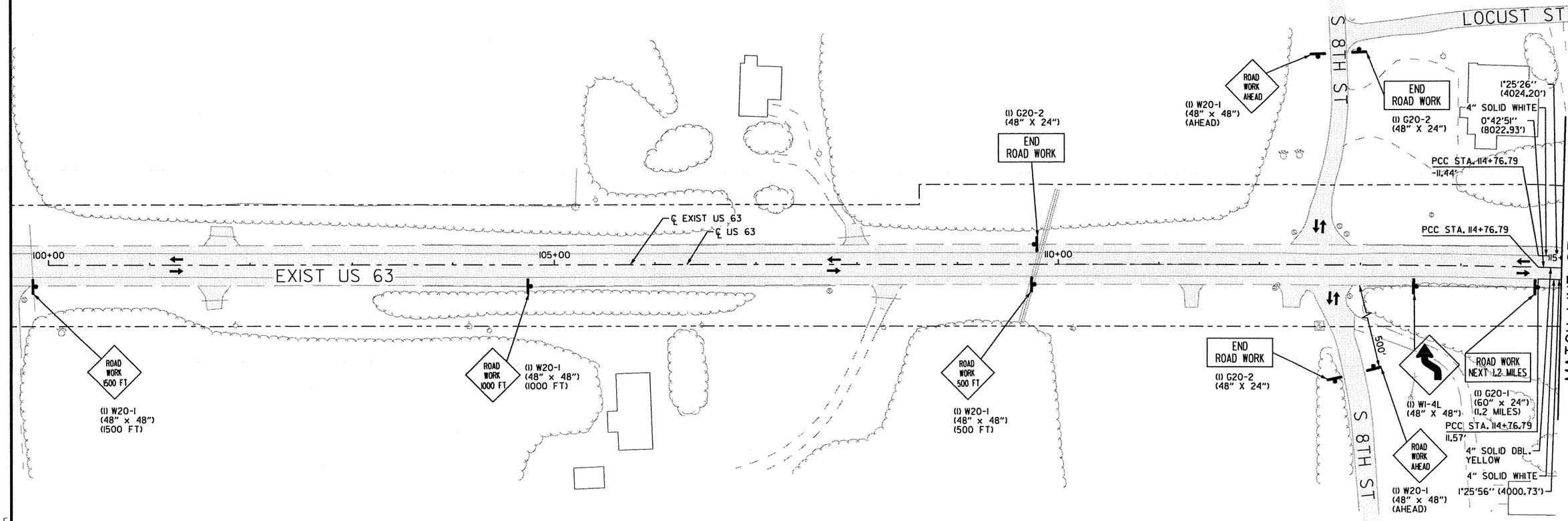
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12894
SHAHRIAR AZAD
8-27-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	31	252
				②	MAINTENANCE OF TRAFFIC			

CONSTRUCTION PAVEMENT MARKINGS

US 63
LT & RT 4" SOLID WHITE STA. 114+76 TO STA. 130+76
CENTERLINE DBL. 4" SOLID YELLOW STA. 114+76 TO STA. 130+76



STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 1 OF 6
BEGIN PROJECT TO STA. 115+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	32	252

(2) MAINTENANCE OF TRAFFIC

6:50:30 PM
9/25/2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

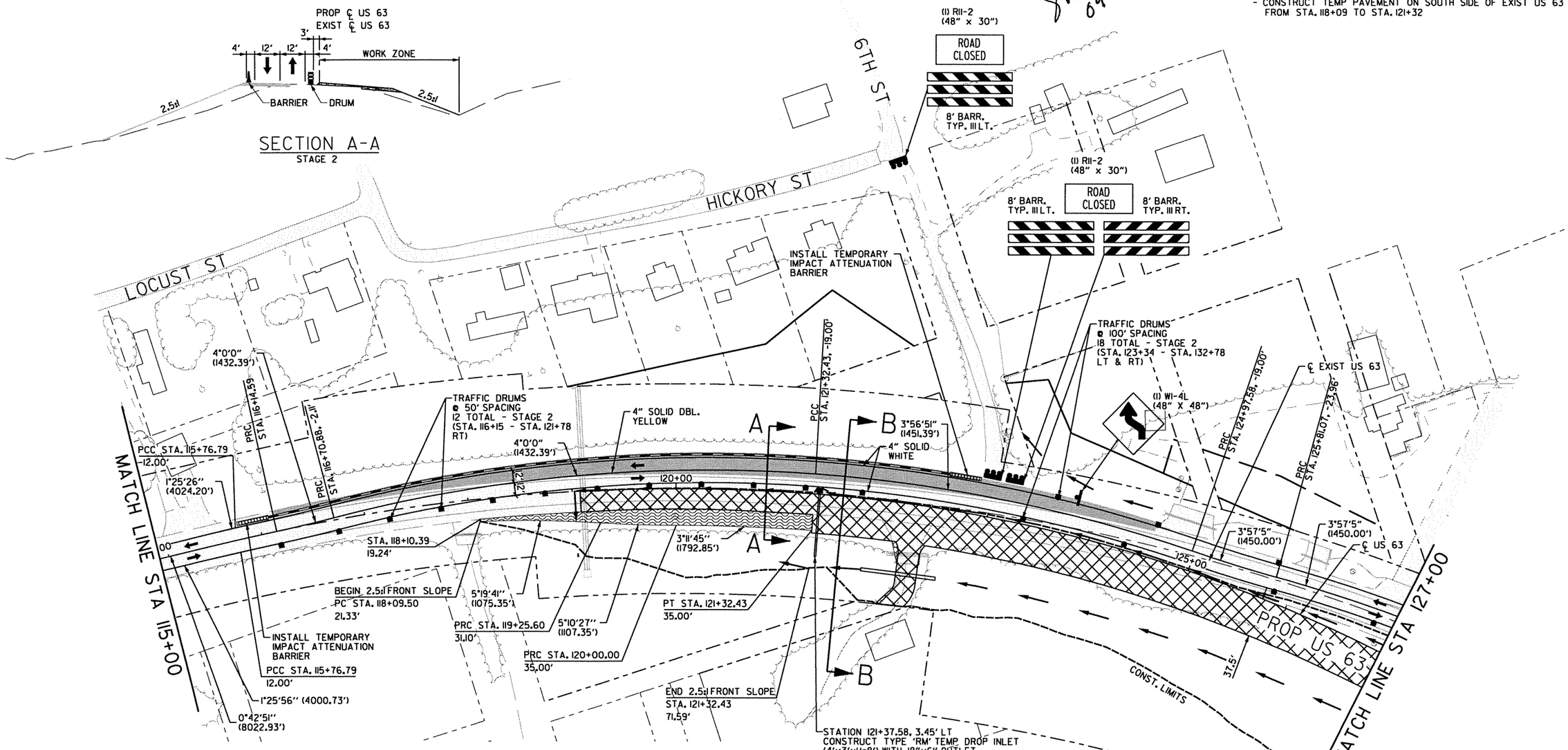
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

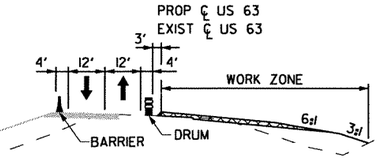
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHARRAR AND
09-25-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 2
- CONSTRUCT EB MAIN LANES FROM STA. 121+32 TO STA. 134+01
  CONSTRUCT EB TRANSITION FROM STA. 119+07 TO STA. 121+32
  (DRIVEWAYS TO BE CONSTRUCTED IN HALVES IN ORDER TO ALLOW TRAFFIC ON DRIVEWAYS DURING CONSTRUCTION)
- CONSTRUCT TEMP PAVEMENT ON SOUTH SIDE OF EXIST US 63 FROM STA. 118+09 TO STA. 121+32

SECTION A-A
STAGE 2





SECTION B-B
STAGE 2
N.T.S.

NOTE: THE RECONSTRUCTION OF PAVEMENT ACCORDING TO THE TYPICAL SECTION AFTER REMOVING THE TEMPORARY PIPE CULVERT AND INLET SHALL BE SUBSIDIARY TO OTHER ITEMS.

STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 2 OF 6
STA. 115+00 TO STA. 127+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	33	252

(2) MAINTENANCE OF TRAFFIC

8:39:22 AM
10/12/2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

MATCH LINE A

MATCH LINE B

3RD ST

℄ 3RD ST

15+00

STA. 14+28.56
-10.61'

PT STA. 14+28.56
-12.00'

16°33'17"
(346.1')

CONST. LIMITS

PRC STA. 13+60.46
-18.77'

15°28'52"
(370.10')

PCC STA. 12+87.64
-26.00'

6°47'4"
(844.51')

PC STA. 12+72.58
-26.00'

PT STA. 11+20.24
-28.95'

PC STA. 10+70.30
-36.60'

PT STA. 10+77.86
-60.03'

PC STA. 10+68.07
-60.83'

K

K

C

C

TRAFFIC DRUMS
@ 25' SPACING
11 TOTAL - STAGE 2
(STA. 12+76 - STA. 15+27 LT)

TRAFFIC DRUMS
@ 25' SPACING
6 TOTAL - STAGE 2
(STA. 128+09 - STA. 128+59 LT)
(STA. 10+77 - STA. 11+17 LT)

3°57'5"
(1450.00')

PT
STA. 129+74.00,
-60.50'

PC
STA. 130+44.68,
-60.50'

4" SOLID
WHITE

4" SOLID
DBL. YELLOW

PT
STA. 130+75.48,
-60.83'

3°57'5"
(1450.00')

TRAFFIC DRUMS
@ 100' SPACING

STA. 132+07.83
-42.21'

STA. 132+26.41
-17.50'

PT
STA. 132+55.47,
-62.05'

12'

55'

60.5'

17.5'

37.5'

10+00

130+00

135+00

140+00

TEMP 18" CULVERT

PT STA. 128+62.99

119°21'58"
(48.00')

PC STA. 128+39.39
-26.13'

PC STA. 128+08.42
-23.31'

119°21'58"
(48.00')

PT STA. 127+86.66

TEMP 18"
CULVERT

STA. 132+50.50
43.33'

STA. 132+45.81
-17.50'

REFER TO SHEET 4 OF 6

REFER TO SHEET 4 OF 6

REFER TO SHEET 4 OF 6

MATCH LINE STA 127+00

MATCH LINE STA 141+00

EXIST ℄ 3RD ST

WORK ZONE

10' 10'

3:1

DRUM*

SECTION K-K

STAGE 2
N.T.S.

*PLACE VERTICAL PANELS IN NOTCH ON SIDE BEING NOTCHED AND WIDENED. ONCE THE SHOULDER IS BROUGHT UP TO GRADE, REPLACE WITH DRUMS. 10 VERTICAL PANELS USED IN STAGE 2.

SHOULDER CLOSED

(1) RSP-1
(48" x 30")

℄ AR 25

D

D

TEMP SHORING

℄ EXIST US 63

INSTALL TEMPORARY IMPACT ATTENUATION BARRIER

EXIST US 63

CONST. LIMITS

PROP US 63

℄ US 63

CONST. LIMITS

INSTALL TEMPORARY IMPACT ATTENUATION BARRIER

E

E

500'

500'

500'

(1) G20-2
(48" X 24")
END
ROAD WORK

ROAD WORK 500 FT

(1) W20-1
(48" x 48")
(500 FT)

ROAD WORK 1000 FT

(1) W20-1
(48" x 48")
(1000 FT)

ROAD WORK 1500 FT

(1) W20-1
(48" x 48")
(1500 FT)

3RD ST

AR 25

BLACK RIVER

END ROAD WORK

(1) G20-2
(48" X 24")

ROAD WORK 1500 FT

(1) W20-1
(48" x 48")
(1500 FT)

ROAD WORK 1000 FT

(1) W20-1
(48" x 48")
(1000 FT)

ROAD WORK 500 FT

(1) W20-1
(48" x 48")
(500 FT)

SEQUENCE OF TRAFFIC NOTES

STAGE 2
- CONSTRUCT BRIDGE FROM STA. 134+01 TO STA. 160+68 INCLUDING APPROACH SLABS
- CONSTRUCT WB MAIN LANES (PAINTED MEDIAN AND INSIDE LANE ONLY) FROM STA. 128+74 TO STA. 134+01
- CONSTRUCT TEMP PAVEMENT ON SOUTH SIDE OF EXIST US 63 FROM STA. 127+86 TO STA. 128+63
- CONSTRUCT TEMP PAVEMENT IN EXISTING ISLAND ON 3RD ST FROM STA. 10+68 TO STA. 11+20
- CONSTRUCT TEMP PAVEMENT ON WEST SIDE OF EXIST 3RD ST FROM STA. 12+72 TO STA. 14+29
- CONSTRUCT TEMP PAVEMENT ON SOUTH SIDE OF EXIST US 63 FROM STA. 132+07 TO STA. 132+51

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANE D. MARIAR

10-12-2012

STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 3 OF 6
STA. 127+00 TO STA. 141+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	34	252
				②	MAINTENANCE OF TRAFFIC			

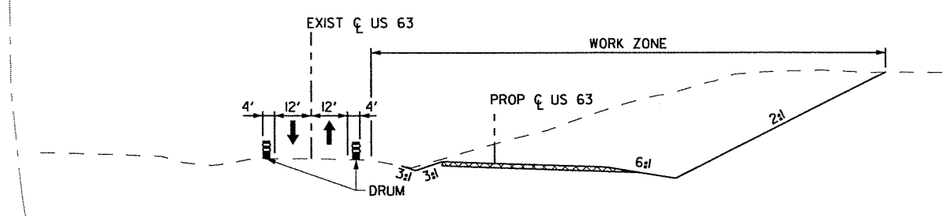
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LEGEND

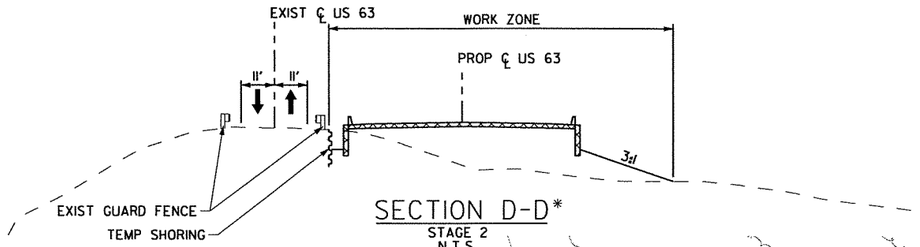
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

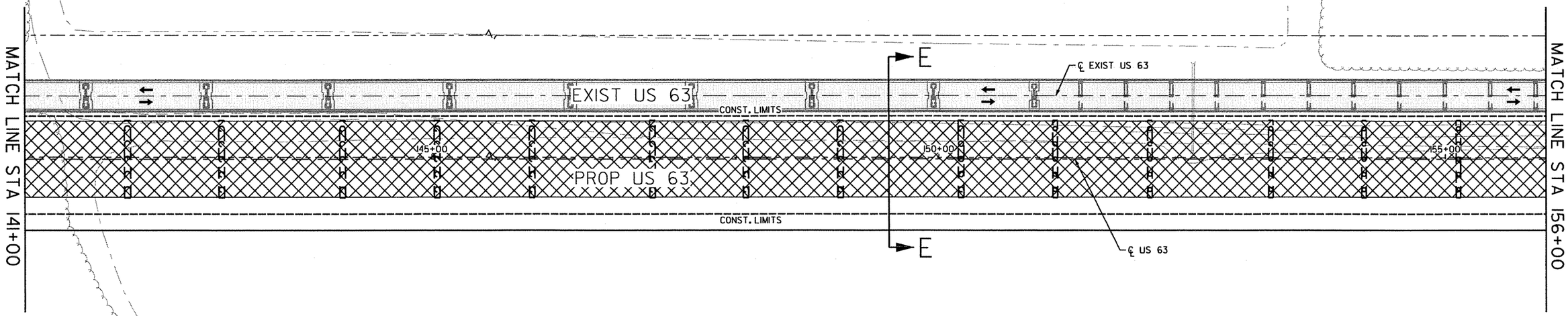
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12405
SHAHRIAR AZAD
08-27-2012

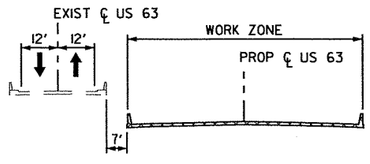


SECTION C-C*
STAGE 2
N.T.S.



SECTION D-D*
STAGE 2
N.T.S.





SECTION E-E
STAGE 2
N.T.S.

*REFER TO SHEET 3 OF 6 FOR LOCATION OF SECTIONS C-C AND D-D.

STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 4 OF 6
STA. 141+00 TO STA. 156+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	35	252

(2) MAINTENANCE OF TRAFFIC

8/27/2012 11:59:35 AM

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

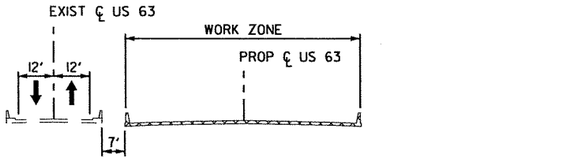
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17704
SHAHRIAR AZAD
06-27-2012

SEQUENCE OF TRAFFIC NOTES

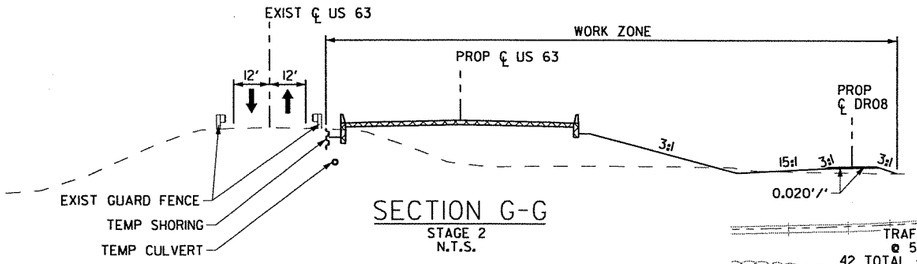
STAGE 2
- CONSTRUCT EB MAIN LANES FROM STA. 160+68 TO STA. 175+80

CONSTRUCTION PAVEMENT MARKINGS

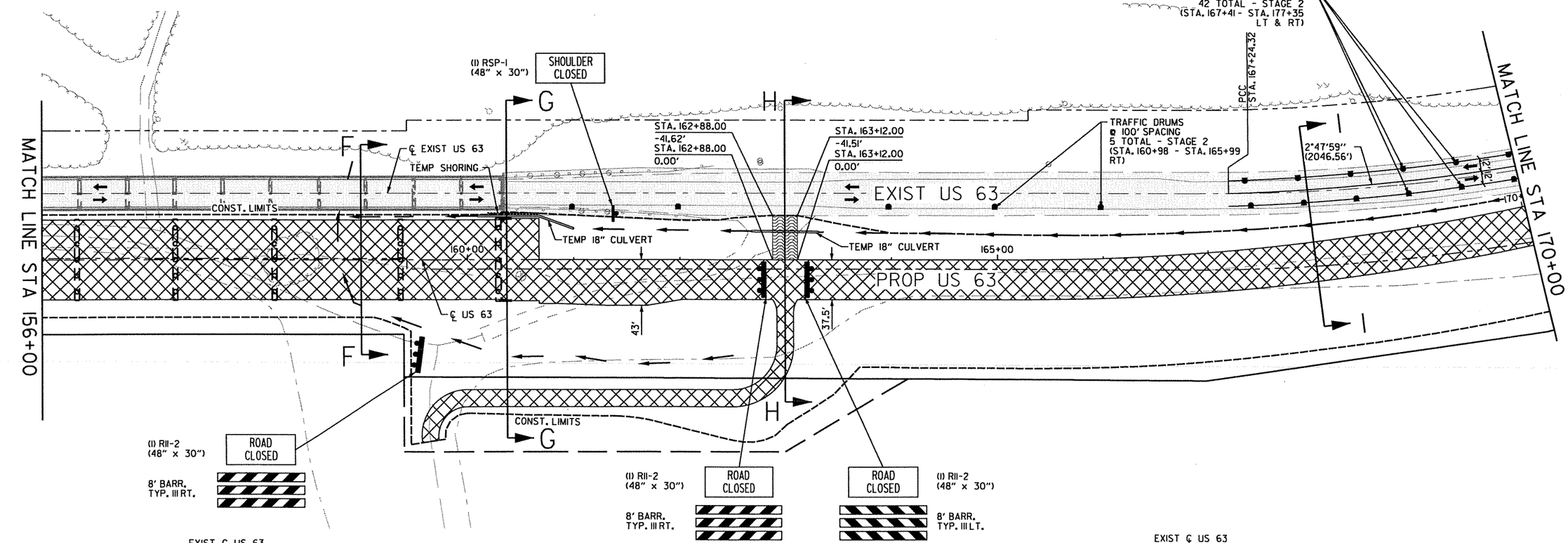
US 63
LT & RT 4" SOLID WHITE STA. 167+24 TO STA. 177+69
CENTERLINE DBL. 4" SOLID YELLOW STA. 167+24 TO STA. 177+69

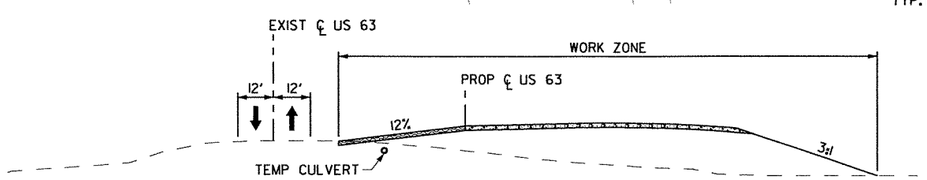


SECTION F-F
STAGE 2
N.T.S.

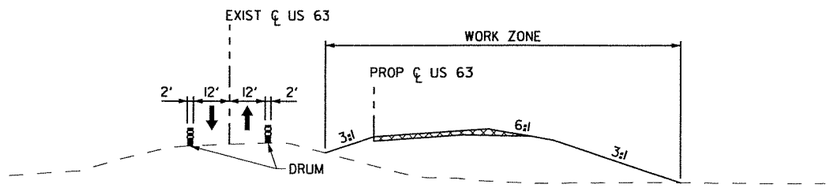


SECTION G-G
STAGE 2
N.T.S.





SECTION H-H
STAGE 2
N.T.S.



SECTION I-I
STAGE 2
N.T.S.

STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 5 OF 6
STA. 156+00 TO STA. 170+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	36	252
				②	MAINTENANCE OF TRAFFIC			

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LEGEND

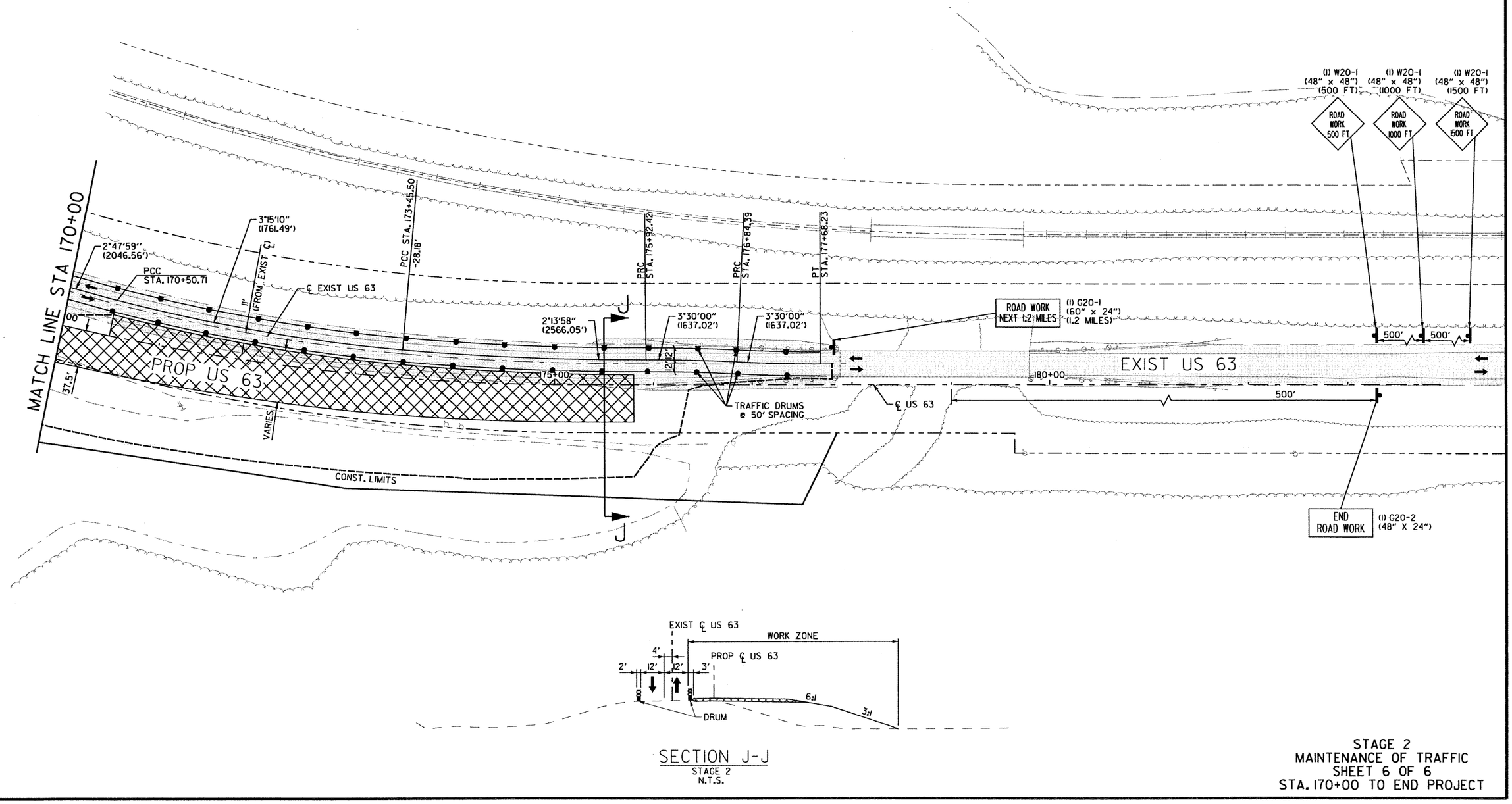
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
08-27-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 2
- CONSTRUCT WB MAIN LANES BETWEEN ℄ US 63 AND NOTCH IN EXISTING PAVEMENT FROM STA. 170+50 TO STA. 175+80



SECTION J-J
STAGE 2
N.T.S.

STAGE 2
MAINTENANCE OF TRAFFIC
SHEET 6 OF 6
STA. 170+00 TO END PROJECT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	37	252

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-04-2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

SEQUENCE OF TRAFFIC NOTES

STAGE 2B
- CONSTRUCT EB MAIN LANES BETWEEN EXISTING ℄ US 63 AND PERMANENT PAVEMENT CONSTRUCTED IN STAGE 2 FROM STA. 174+00 TO STA. 175+80 INCLUDING TRANSITION PAVEMENT FROM STA. 175+80 TO STA. 177+80. THE EXISTING GUARDRAIL BEGINNING AT APPROX. STA. 176+00 TO REMAIN AND SHALL NOT BE REMOVED.
- STAGES 2B AND 2C SHALL BE CONSTRUCTED IN A CONTINUOUS PROCESS OVER THE COURSE OF ONE WEEKEND
- STAGE 2B SHALL USE THE SAME DRUMS AS STAGE 2 WITH THE ADDITION OF 10 EXTRA DRUMS TO BE USED AS NEEDED

(1) W20-1 (48" x 48") (500 FT)
ROAD WORK 500 FT
(1) W20-1 (48" x 48") (1000 FT)
ROAD WORK 1000 FT
(1) W20-1 (48" x 48") (1500 FT)
ROAD WORK 1500 FT
500' 500'

℄ EXIST US 63
2%
170+00
PROP US 63
TRAFFIC DRUMS @ 50' SPACING
A
11' (FROM EXIST. ℄)
175+00
A
ROAD WORK NEXT 1.2 MILES
(1) G20-1 (60" x 24") (1.2 MILES)
EXIST US 63
180+00
℄ US 63
500'
END ROAD WORK
(1) G20-2 (48" X 24")

ROAD CLOSED
(1) R11-2 (48" x 30")
8' BARR. TYP. III RT.
PERMANENT BARRICADE AND SIGN TO REMAIN IN PLACE UPON COMPLETION OF CONSTRUCTION

EXIST ℄ US 63
WORK ZONE
4' 12' 4'
4'
PROP ℄ US 63
6:1
3:1
DRUM

SECTION A-A
STAGE 2B
N.T.S.

STAGE 2B
MAINTENANCE OF TRAFFIC
SHEET 1 OF 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	38	252

② MAINTENANCE OF TRAFFIC

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LEGEND

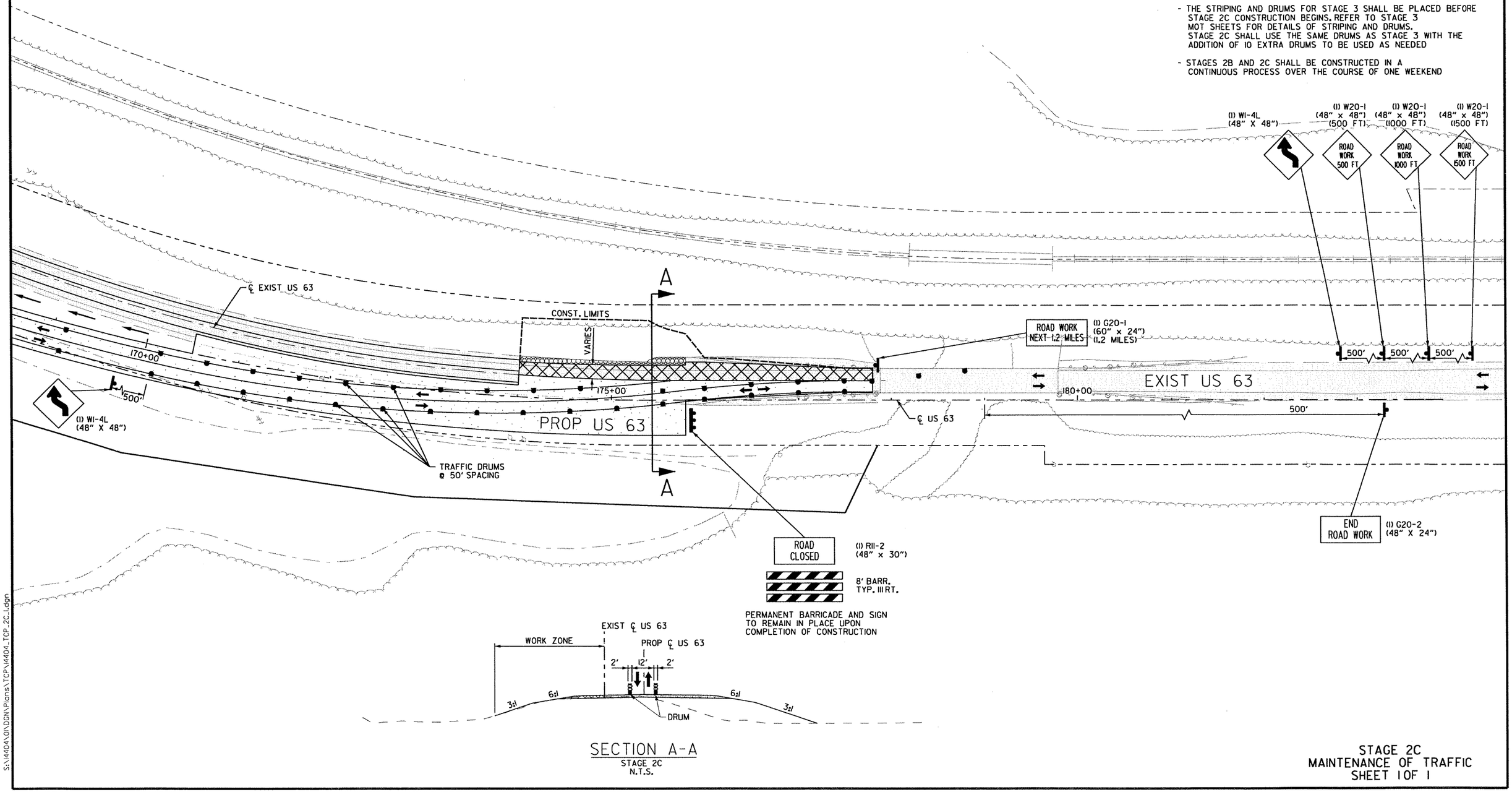
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14404
SHAHRIAR AZAD
09-04-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 2C
- CONSTRUCT REMAINING WB MAIN LANE PAVEMENT FROM STA. 174+00 TO STA. 175+80 INCLUDING TRANSITION PAVEMENT FROM STA. 175+80 TO STA. 176+80. THE EXISTING GUARDRAIL BEGINNING AT APPROX. STA. 176+00 TO REMAIN AND SHALL NOT BE REMOVED.
- OBLITERATE EXISTING PAVEMENT ADJACENT TO PROPOSED PAVEMENT CONSTRUCTED IN THIS STAGE, STOPPING AT STA. 175+80, LEAVING GUARDRAIL PAVEMENT INTACT
- THE STRIPING AND DRUMS FOR STAGE 3 SHALL BE PLACED BEFORE STAGE 2C CONSTRUCTION BEGINS. REFER TO STAGE 3 MOT SHEETS FOR DETAILS OF STRIPING AND DRUMS. STAGE 2C SHALL USE THE SAME DRUMS AS STAGE 3 WITH THE ADDITION OF 10 EXTRA DRUMS TO BE USED AS NEEDED
- STAGES 2B AND 2C SHALL BE CONSTRUCTED IN A CONTINUOUS PROCESS OVER THE COURSE OF ONE WEEKEND



SECTION A-A
STAGE 2C
N.T.S.

STAGE 2C
MAINTENANCE OF TRAFFIC
SHEET 1 OF 1

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	39	252
				(2)	MAINTENANCE OF TRAFFIC			

LEGEND

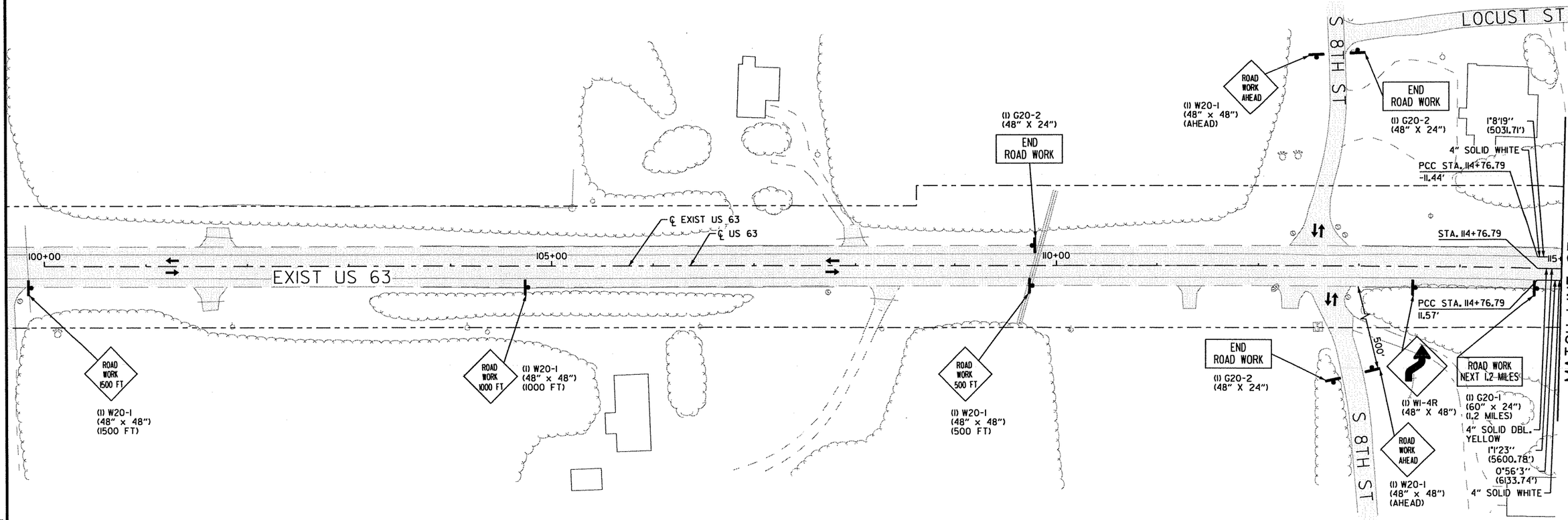
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12405
SHAHRIAR ALLID
08-27-12

CONSTRUCTION PAVEMENT MARKINGS

US 63
LT & RT 4" SOLID WHITE STA. 114+76 TO STA. 177+80
CENTERLINE DBL. 4" SOLID YELLOW STA. 114+76 TO STA. 177+80



STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 1 OF 6
BEGIN PROJECT TO STA. 115+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	40	252
				(2)	MAINTENANCE OF TRAFFIC			

LEGEND

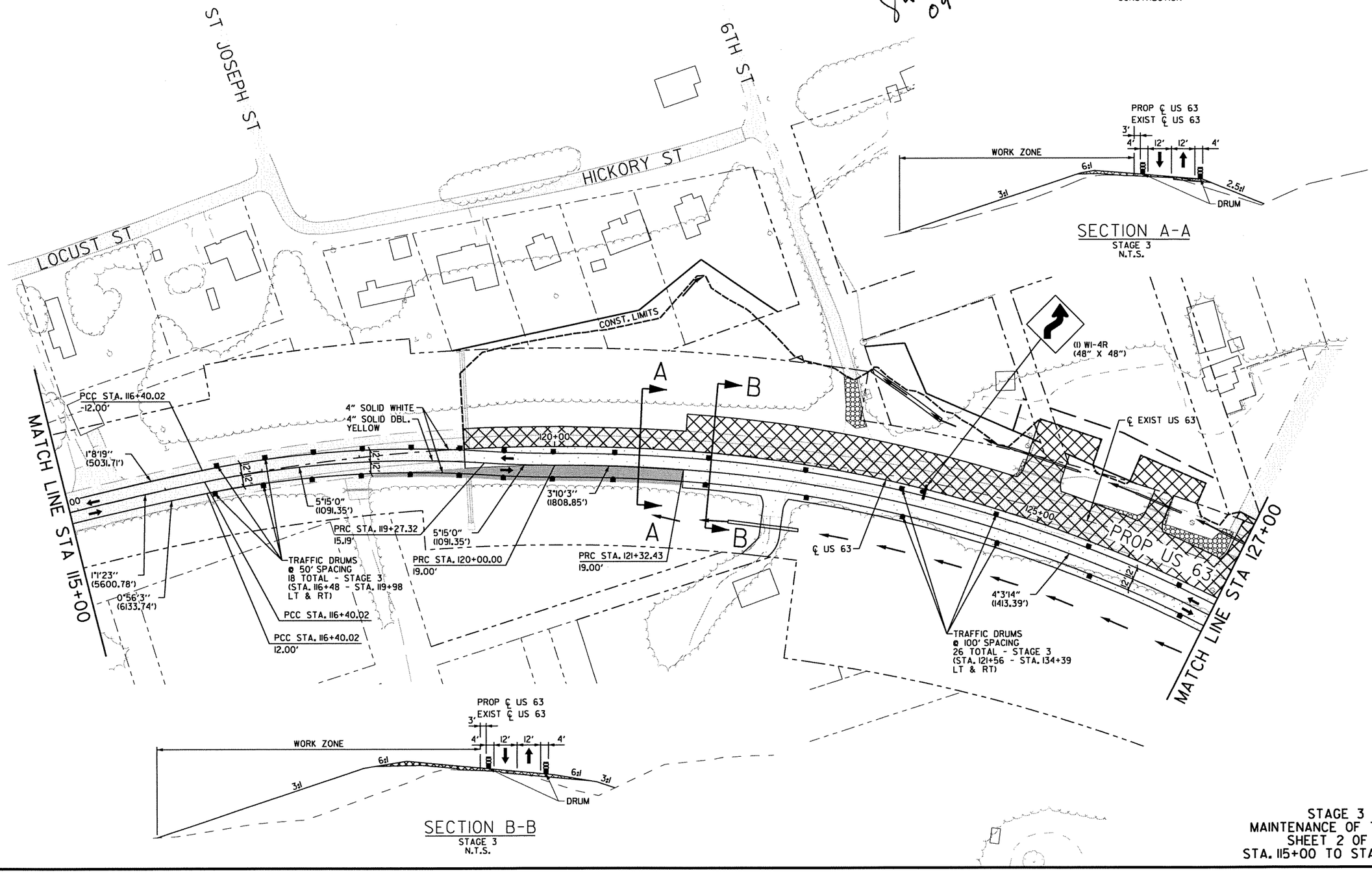
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-25-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 3
- CONSTRUCT WB MAIN LANES FROM STA. 121+32 TO STA. 127+50
  CONSTRUCT TRANSITION PAVEMENT FROM STA. 119+07 TO STA. 121+32
  (DRIVEWAYS TO BE CONSTRUCTED IN HALVES
  IN ORDER TO ALLOW TRAFFIC DURING CONSTRUCTION)
- OBLITERATE EXISTING 6TH ST PAVEMENT WITHIN LIMITS OF US 63 CONSTRUCTION



SECTION A-A
STAGE 3
N.T.S.

SECTION B-B
STAGE 3
N.T.S.

STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 2 OF 6
STA. 115+00 TO STA. 127+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	41	252
				(2)	MAINTENANCE OF TRAFFIC			

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10/12/2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

MATCH LINE A

3RD ST

15+00

℄ 3RD ST
PT STA. 14+28.56

TRAFFIC DRUMS
@ 25' SPACING
32 TOTAL - STAGE 3
(STA. 10+00 - STA. 14+32
LT & RT)

PRC STA. 13+58.10
-7.00'

16°0'0"
(358.1')

4" SOLID DBL. YELLOW

CONST. LIMITS

PCC STA. 12+87.64
-14.00'

4" SOLID WHITE

6°52'56"
(832.51')

PRC STA. 12+50.22
14.00'

PRC STA. 11+57.94
-30.73'

1010'

(1) W1-4R
(48" X 48")

PC STA. 10+43.00
-49.68'

PCC STA. 10+43.00
-39.68'

PRC STA. 10+43.00
-59.68'

114°35'30"
(50.00')

1000'

130+00

PC STA. 128+84.32
7.00'

STA. 128+24.32
7.00'

SHOULDER CLOSED

(1) RSP-1
(48" X 30")

TRAFFIC DRUMS
@ 100' SPACING

REFER TO SHEET 4 OF 6

4°3'14"
(1413.39')

PT STA. 128+09.71
19.00'

PRC STA. 127+65.64
7.00'

MATCH LINE STA 127+00

EXIST ℄ 3RD ST
WORK ZONE

2' 10' 10' 2'

3:1

DRUM DRUM (1)

SECTION K-K
STAGE 3
N.T.S.

(1) TRAFFIC DRUMS TO BE PLACED ON NEW PAVEMENT ONCE CONSTRUCTED.

PROP ℄ 3RD ST
WORK ZONE

10' 10'

4:1 2:1 3:1

DRUM

SECTION J-J
STAGE 3
N.T.S.

MATCH LINE B

AR 25

(1) RSP-1
(48" X 30")

SHOULDER CLOSED

35+00

℄ AR 25

CONST. LIMITS

℄ EXIST US 63

EXIST US 63

PROP US 63

135+00

140+00

12'

℄ US 63

4" SOLID DBL. YELLOW

4" SOLID WHITE

REFER TO SHEET 4 OF 6

TRAFFIC DRUMS
@ 100' SPACING
26 TOTAL - STAGE 3
(STA. 135+22 - STA. 160+20
LT)

MATCH LINE STA 141+00

500'

(1) G20-2
(48" X 24")

END ROAD WORK

ROAD WORK 500 FT

(1) W20-1
(48" X 48")
(500 FT)

ROAD WORK 1000 FT

(1) W20-1
(48" X 48")
(1000 FT)

ROAD WORK 1500 FT

(1) W20-1
(48" X 48")
(1500 FT)

BLACK RIVER

3RD ST

(1) G20-2
(48" X 24")

END ROAD WORK

(1) W20-1
(48" X 48")
(1500 FT)

ROAD WORK 1000 FT

(1) W20-1
(48" X 48")
(1000 FT)

ROAD WORK 500 FT

(1) W20-1
(48" X 48")
(500 FT)

(1) W1-4R
(48" X 48")

MATCH LINE A

MATCH LINE B

SEQUENCE OF TRAFFIC NOTES

STAGE 3
- CONSTRUCT WB MAIN LANES (OUTSIDE LANE AND SHOULDER) FROM STA. 128+74 TO STA. 134+01 (DRIVEWAYS TO BE CONSTRUCTED IN HALVES IN ORDER TO ALLOW TRAFFIC ON DRIVEWAYS DURING CONSTRUCTION)
- DEMOLISH EXISTING BLACK RIVER BRIDGE
- CONSTRUCT NB 3RD ST FROM STA. 10+17 TO STA. 12+25 CONSTRUCT TRANSITION PAVEMENT FROM STA. 12+25 TO STA. 13+75 (DRIVEWAYS TO BE CONSTRUCTED IN HALVES IN ORDER TO ALLOW TRAFFIC ON DRIVEWAYS DURING CONSTRUCTION)

CONSTRUCTION PAVEMENT MARKINGS

3RD ST
LT & RT 4" SOLID WHITE FROM STA. 9+93 TO STA. 14+29
CENTERLINE DBL. 4" SOLID YELLOW FROM STA. 9+93 TO STA. 14+29

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-12-2012

STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 3 OF 6
STA. 127+00 TO STA. 141+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	42	252
				(2)	MAINTENANCE OF TRAFFIC			

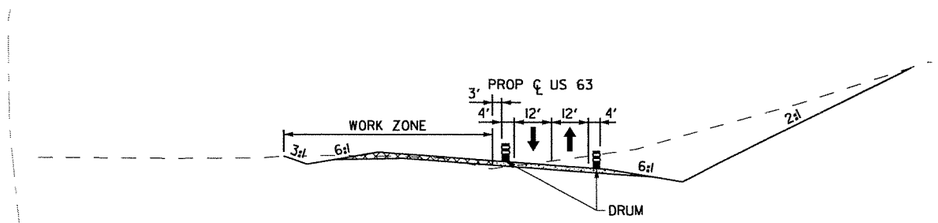
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LEGEND

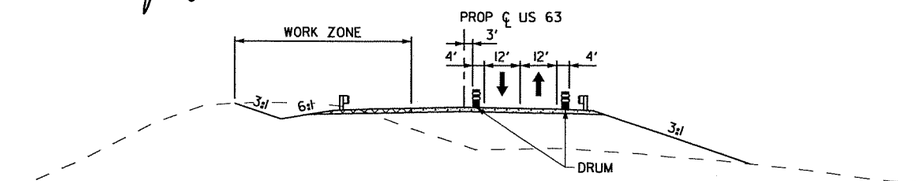
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

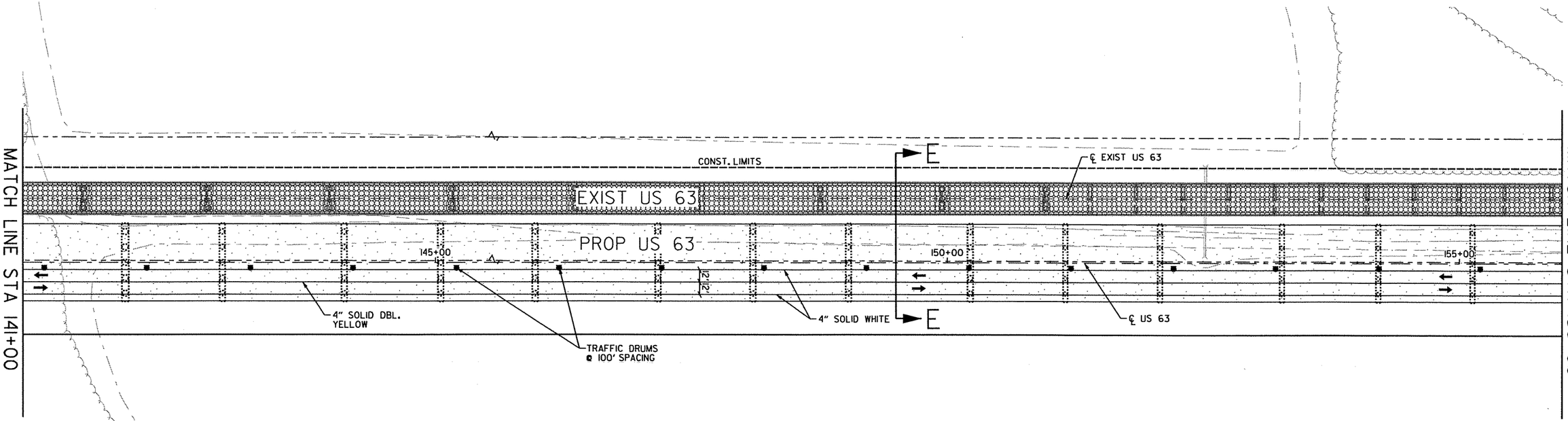
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12484
SHAHRIAR AZAD
08-27-2012

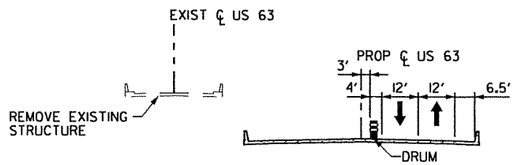


SECTION C-C*
STAGE 3
N.T.S.



SECTION D-D*
STAGE 3
N.T.S.





SECTION E-E
STAGE 3
N.T.S.

* REFER TO SHEET 3 OF 6 FOR LOCATION OF SECTIONS C-C AND D-D.

STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 4 OF 6
STA. 141+00 TO STA. 156+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	43	252
				(2)	MAINTENANCE OF TRAFFIC			

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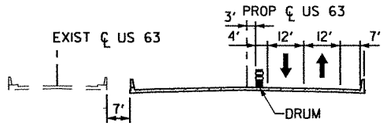
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
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NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

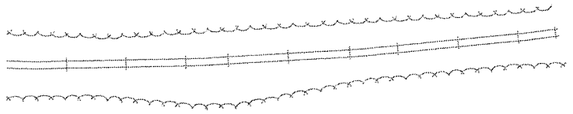
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
08-27-2012

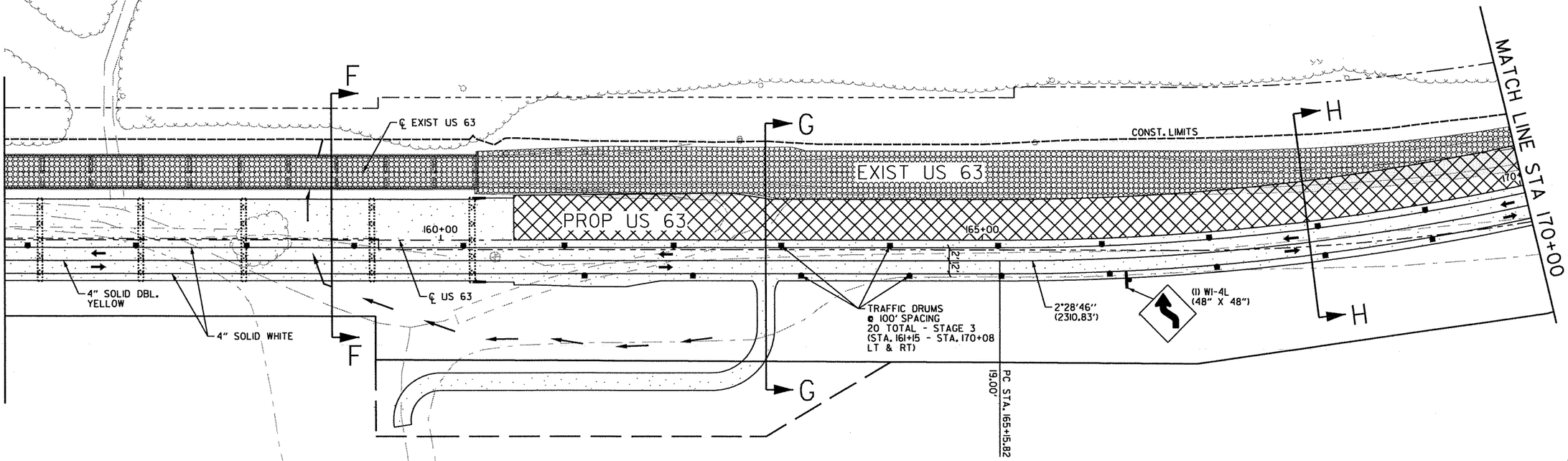
SEQUENCE OF TRAFFIC NOTES

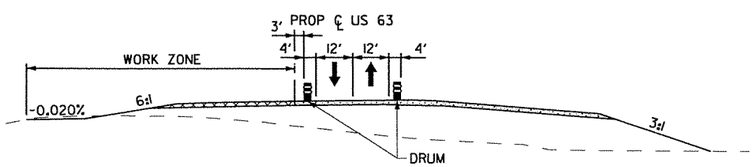
STAGE 3
- CONSTRUCT REMAINING WB MAIN LANES FROM STA. 160+68 TO STA. 174+00
- OBLITERATE EXISTING US 63 PAVEMENT ADJACENT TO PERMANENT PAVEMENT CONSTRUCTED DURING THIS STAGE



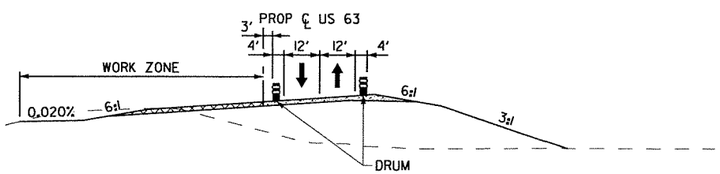
SECTION F-F
STAGE 3
N.T.S.







SECTION G-G
STAGE 3
N.T.S.



SECTION H-H
STAGE 3
N.T.S.

STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 5 OF 6
STA. 156+00 TO STA. 170+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	44	252
				(2) MAINTENANCE OF TRAFFIC				

LEGEND

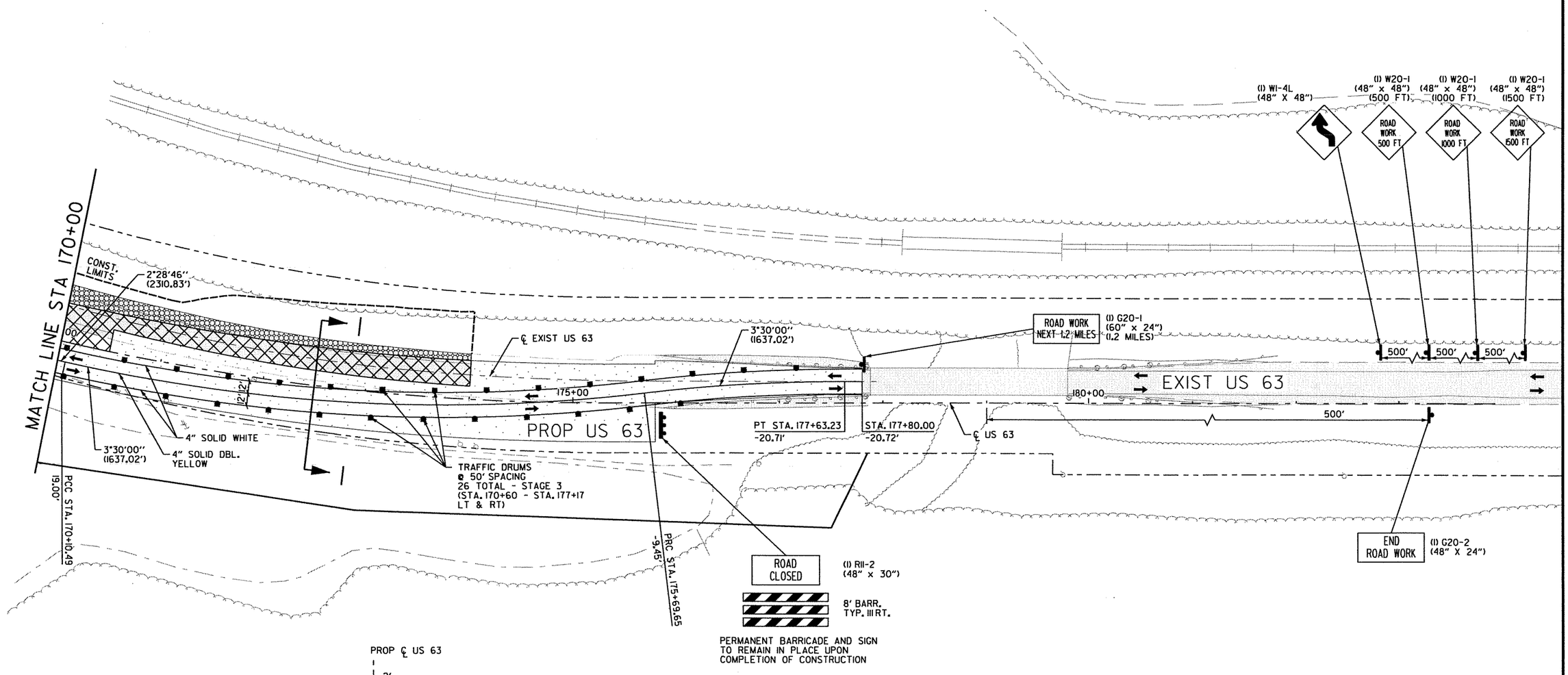
- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

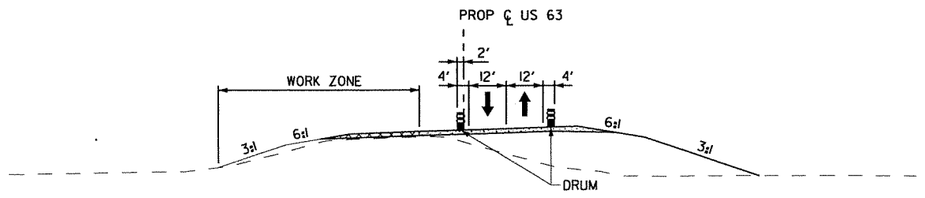
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADAD
08-27-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 3
- COMPLETE CONSTRUCTION OF THE OVERLAY ON EXISTING PAVEMENT FROM STA. 171+00 TO STA. 174+00 (THIS AREA WAS CONSTRUCTED AS TRANSITION PAVEMENT DURING STAGES 2B AND 2C)





SECTION I-I
STAGE 3
N.T.S.

STAGE 3
MAINTENANCE OF TRAFFIC
SHEET 6 OF 6
STA. 170+00 TO END PROJECT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	45	252
				②	MAINTENANCE OF TRAFFIC			

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10/12/2012

LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

MATCH LINE A

MATCH LINE B

3RD ST

AR 25

℄ 3RD ST

STA. 14+28.56

TRAFFIC DRUMS @ 25' SPACING 65 TOTAL - STAGE 3B (STA. 10+00 - STA. 14+27 LT & RT)

PT STA. 13+83.37
5°0'0" (1145.9156')

4" SOLID YELLOW

PRC STA. 13+35.51
1.00'
5°0'0" (1145.9156')

4" SOLID WHITE

PRC STA. 12+87.64
2.00'
7°1'2" (816.51')

PC STA. 12+00.29
2.00'

PT STA. 11+81.44
2.00'
16°0'0" (358.10')

4" SOLID WHITE

PRC STA. 11+11.30
8.94'
16°0'0" (358.10')

PRC STA. 10+67.32
24.94'

PC STA. 129+78.74
7.00'
71°37'11" (80.00')

PC STA. 10+41.16
15.87'

STA. 129+05.27
6.49'

SHOULDER CLOSED
(1) RSP-1 (48" x 30")

(2) RII-2 (48" x 30")
ROAD CLOSED
8' BARR. TYP. III LT.

TRAFFIC DRUMS @ 100' SPACING 114 TOTAL - STAGE 3B (STA. 116+48 - STA. 117+16) (LT & RT)

10' 10' 10' 10' 10' 10' 10' 10' 10' 10'

12' 12'

130+00 135+00 140+00

EXIST ℄ 3RD ST
WORK ZONE
2' 10' 2' 10' 2'
3:1
DRUM DRUM ②

SECTION B-B
STAGE 3B
N.T.S.

② TRAFFIC DRUMS TO BE PLACED ON NEW PAVEMENT ONCE CONSTRUCTED.

PROP ℄ 3RD ST
WORK ZONE
2' 10' 2' 2' 10' 2'
4:1 2:1 3:1
DRUM DRUM
DRUM OR VERTICAL PANEL ①

SECTION A-A
STAGE 3B
N.T.S.

① PLACE VERTICAL PANELS IN NOTCH ON SIDE BEING NOTCHED AND WIDENED. ONCE THE SHOULDER IS BROUGHT UP TO GRADE, REPLACE WITH DRUMS. 10 VERTICAL PANELS USED IN STAGE 3B.

(1) RSP-1 (48" x 30")
SHOULDER CLOSED

℄ EXIST US 63
℄ US 63
PROP US 63

35'-00

℄ AR 25

3RD ST

MATCH LINE A

MATCH LINE B

ROAD WORK 1500 FT
(1) W20-1 (48" x 48") (1500 FT)

ROAD WORK 1000 FT
(1) W20-1 (48" x 48") (1000 FT)

ROAD WORK 500 FT
(1) W20-1 (48" x 48") (500 FT)

(1) W1-4R (48" X 48")

500' 500' 500'

END ROAD WORK
(1) G20-2 (48" X 24")

SEQUENCE OF TRAFFIC NOTES

STAGE 3B
- CONSTRUCT SB 3RD ST (TRAVEL LANE ONLY) FROM STA. 10+00 TO STA. 12+25 INCLUDING TRANSITION PAVEMENT FROM STA. 12+25 TO STA. 13+75
- CONSTRUCT WB US 63 (37.5' WIDTH ONLY) FROM STA. 128+26 TO STA. 128+74

CONSTRUCTION PAVEMENT MARKINGS

3RD ST
RT 4" SOLID WHITE FROM STA. 9+93 TO STA. 13+84
CENTERLINE 4" SOLID YELLOW FROM STA. 9+93 TO STA. 14+29

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11804
SHAHRIAR AZAD
10-12-12

BLACK RIVER

ROAD WORK 500 FT
(1) W20-1 (48" x 48") (500 FT)

ROAD WORK 1000 FT
(1) W20-1 (48" x 48") (1000 FT)

ROAD WORK 1500 FT
(1) W20-1 (48" x 48") (1500 FT)

STAGE 3B
MAINTENANCE OF TRAFFIC

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	46	252
				②	MAINTENANCE OF TRAFFIC			

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LEGEND

- PERM PAVEMENT/BRIDGE UNDER CONSTRUCTION
- PERM PAVEMENT/BRIDGE UNDER TRAFFIC
- TEMP PAVEMENT UNDER CONSTRUCTION
- TEMP PAVEMENT UNDER TRAFFIC
- REMOVE PAVEMENT
- EXISTING PAVEMENT
- TYPE III BARRICADE
- TRAFFIC FLOW
- CONSTRUCTION SIGN
- CHANNELIZATION DEVICE (TRAFFIC DRUM)
- CHANNELIZATION DEVICE (CONCRETE BARRIER)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

MATCH LINE A

MATCH LINE B

3RD ST

℄ 3RD ST

15+00

TRAFFIC DRUMS @ 25' SPACING 30 TOTAL - STAGE 3C (STA. 10+00 - STA. 13+87) LT & RT

4" SOLID DBL. YELLOW

A A

10'10'

CONST. LIMITS

4" SOLID WHITE

PROP ℄ 3RD ST

WORK ZONE

2'

10' 10'

4:1 2:1 3:1

DRUM

SECTION A-A

STAGE 3C

N.T.S.

AR 25

℄ AR 25

(1) RSP-1 (48" x 30")

SHOULDER CLOSED

℄ EXIST US 63

10+00

130+00

135+00

140+00

12'12'

PROP US 63

℄ US 63

PRC STA. 127+98.55

7.00'

71°37'11" (80.00')

PRC STA. 128+77.42

-82.44'

SHOULDER CLOSED

(1) RSP-1 (48" x 30")

TRAFFIC DRUMS @ 100' SPACING 115 TOTAL - STAGE 3B (STA. 116+48 - STA. 117+16) (LT & RT)

500'

500'

500'

(1) G20-2 (48" X 24")

END ROAD WORK

3RD ST

END ROAD WORK

(1) G20-2 (48" X 24")

500'

500'

ROAD WORK 1500 FT

(1) W20-1 (48" x 48") (1500 FT)

ROAD WORK 1000 FT

(1) W20-1 (48" x 48") (1000 FT)

ROAD WORK 500 FT

(1) W20-1 (48" x 48") (500 FT)

(1) W1-4R (48" X 48")

MATCH LINE A

AR 25

3RD ST

MATCH LINE B

ROAD WORK 500 FT

(1) W20-1 (48" x 48") (500 FT)

ROAD WORK 1000 FT

(1) W20-1 (48" x 48") (1000 FT)

ROAD WORK 1500 FT

(1) W20-1 (48" x 48") (1500 FT)

BLACK RIVER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12464
SHANNON ARIAZ LO

10-12-2012

SEQUENCE OF TRAFFIC NOTES

STAGE 3C
- CONSTRUCT REMAINING US 63 AND 3RD ST PAVEMENT (DRIVEWAY TO BE CONSTRUCTED IN HALVES IN ORDER TO ALLOW TRAFFIC DURING CONSTRUCTION)

CONSTRUCTION PAVEMENT MARKINGS

3RD ST
- LT 4" SOLID WHITE FROM STA. 9+93 TO STA. 13+84

PERMANENT PAVEMENT MARKINGS

(SEE MOT PAVEMENT MARKING SHEETS FOR DETAILS)

STAGE 3C
MAINTENANCE OF TRAFFIC

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	47	252

(2) MAINTENANCE OF TRAFFIC

LEGEND

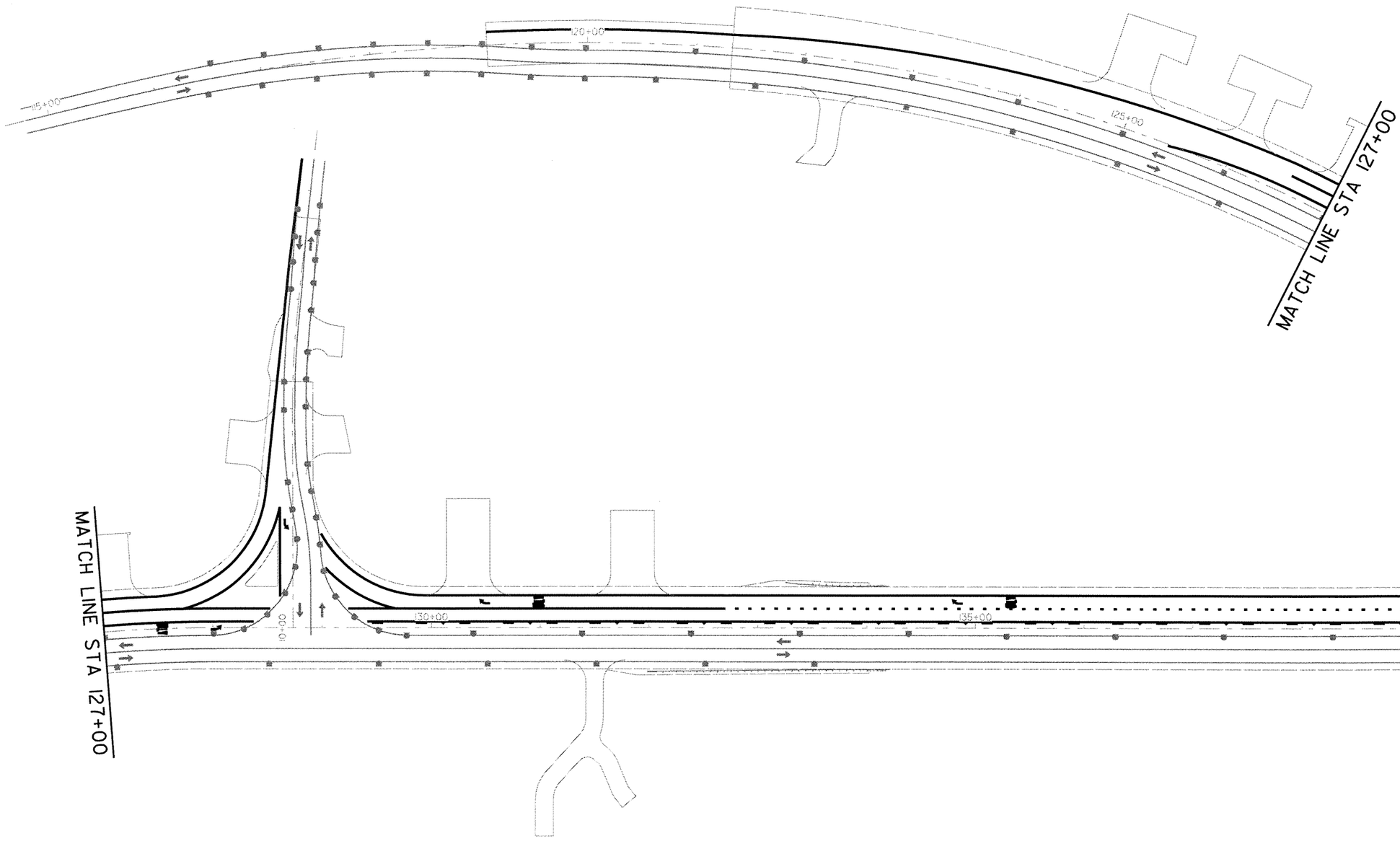
- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No 12404
SHAHRIAR AZAD
09-25-2012

NOTES:

1. REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
2. ADVANCE WARNING SIGNS FOR STAGE 3C TO REMAIN AS SHOWN IN STAGE 3 SHEETS.
3. REFER TO STAGE 3 & 3C MOT SHEETS FOR TRAFFIC DRUM SPACING.



STAGE 3C
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
US 63 SHEET 1 OF 2

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	48	252

(2) MAINTENANCE OF TRAFFIC

LEGEND

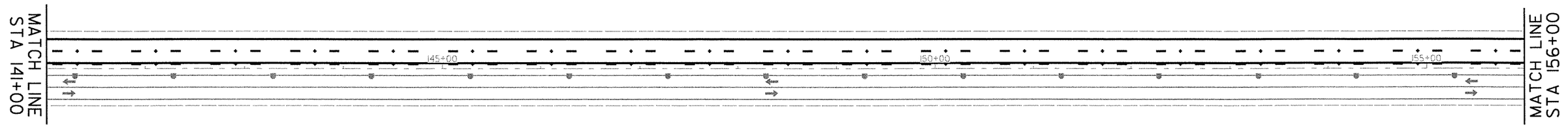
- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

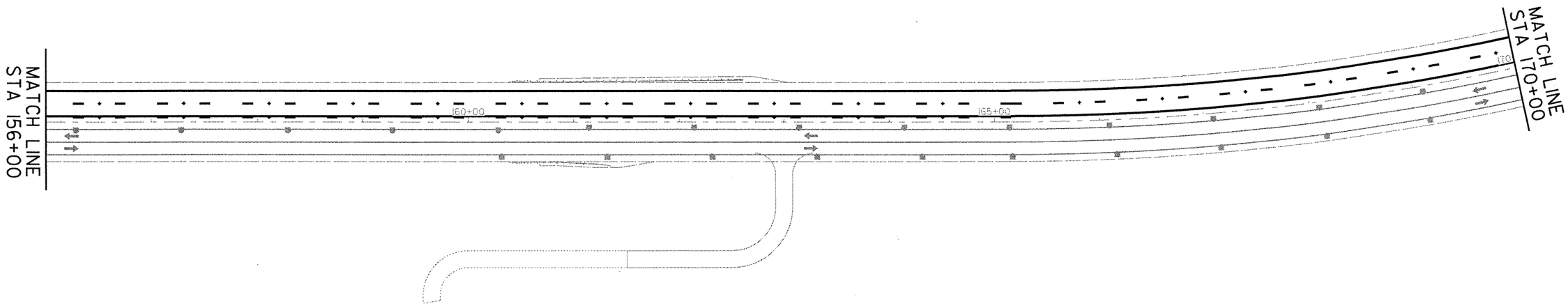
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

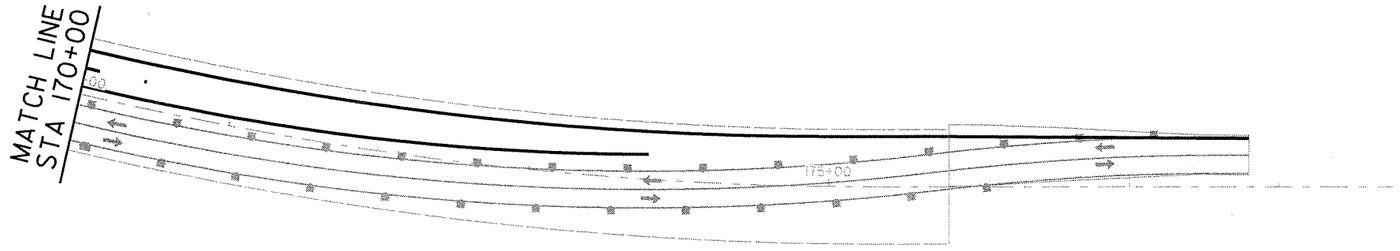
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ALLAD
09-04-2012

NOTES:

1. REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
2. ADVANCE WARNING SIGNS FOR STAGE 3C TO REMAIN AS SHOWN IN STAGE 3 SHEETS.
3. REFER TO STAGE 3 & 3C MOT SHEETS FOR TRAFFIC DRUM SPACING.







STAGE 3C
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
US 63 SHEET 2 OF 2

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LEGEND

- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

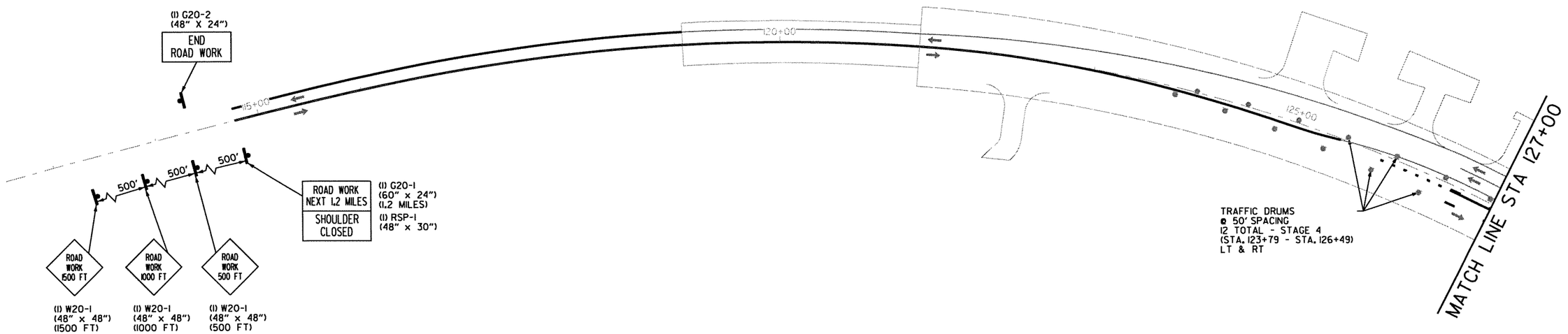
NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNAR LEAD
09-25-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	49	252

(2) MAINTENANCE OF TRAFFIC



STAGE 4
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 1 OF 3

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	50	252
				(2)	MAINTENANCE OF TRAFFIC			

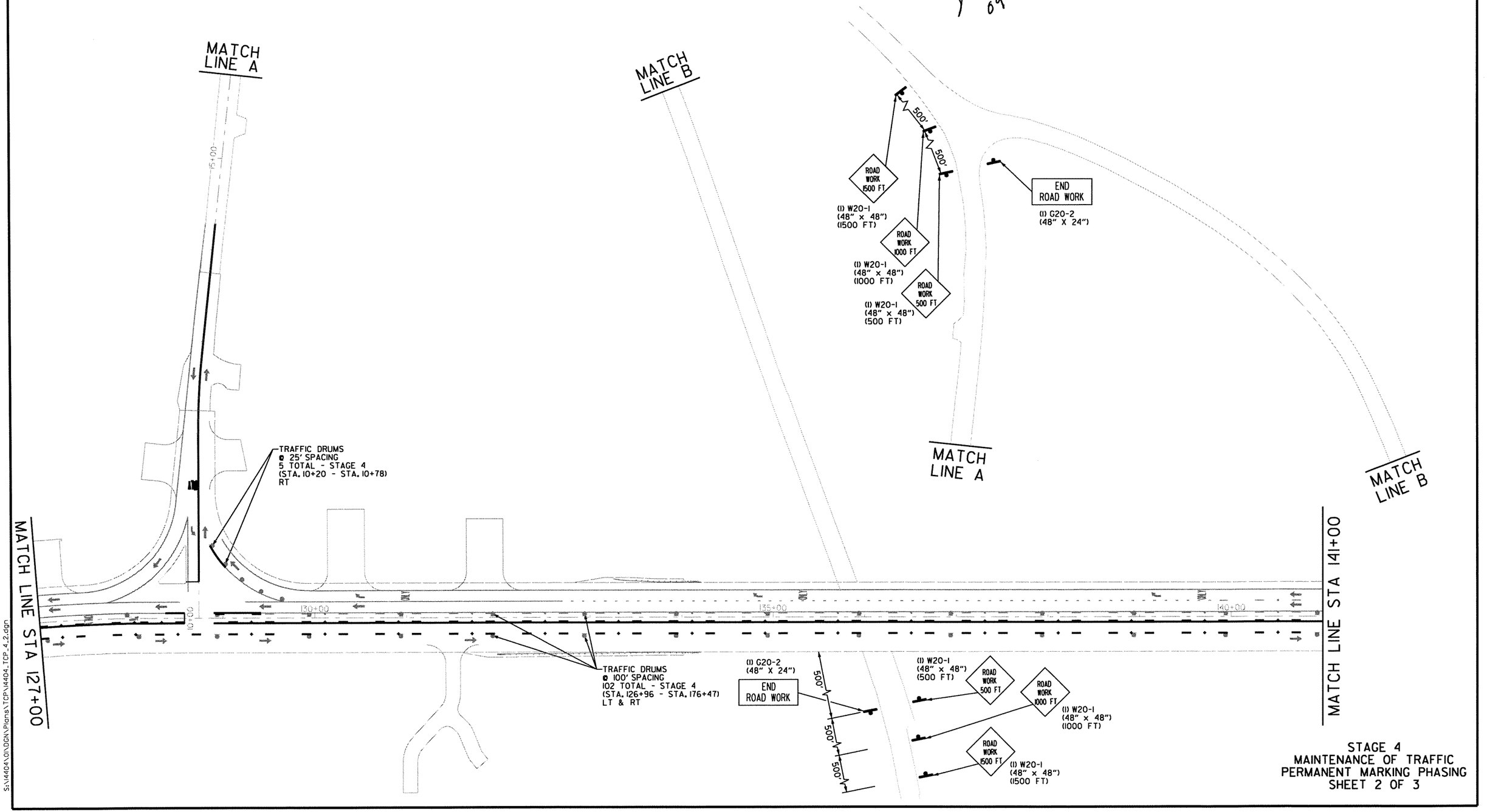
NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-25-2012

LEGEND

- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.



STAGE 4
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 2 OF 3

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	51	252
				②	MAINTENANCE OF TRAFFIC			

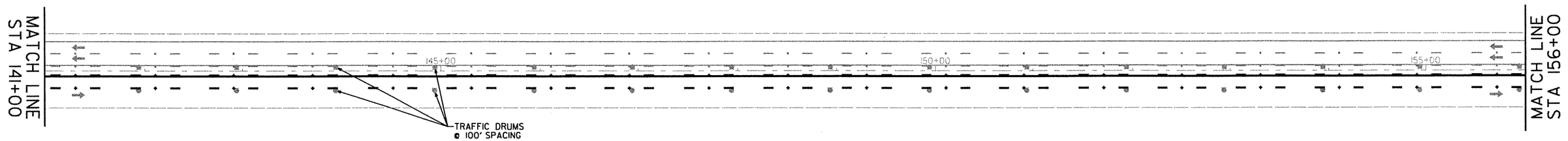
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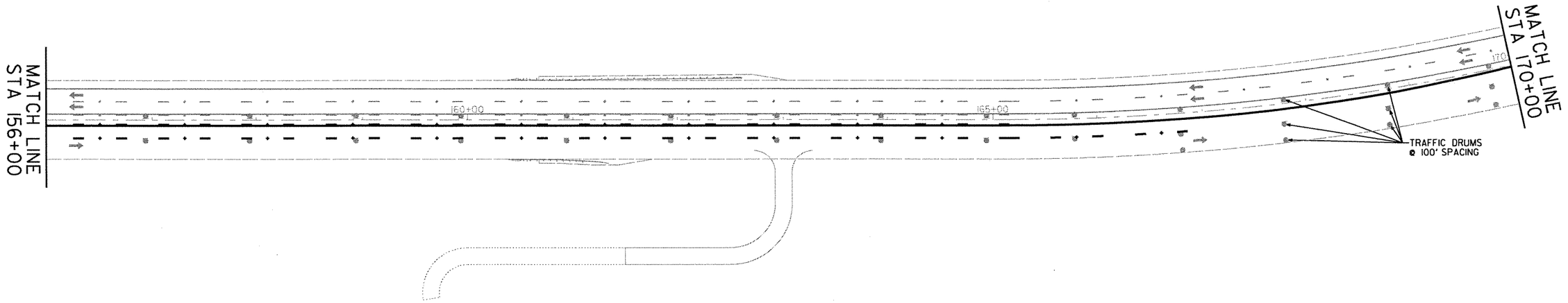
- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

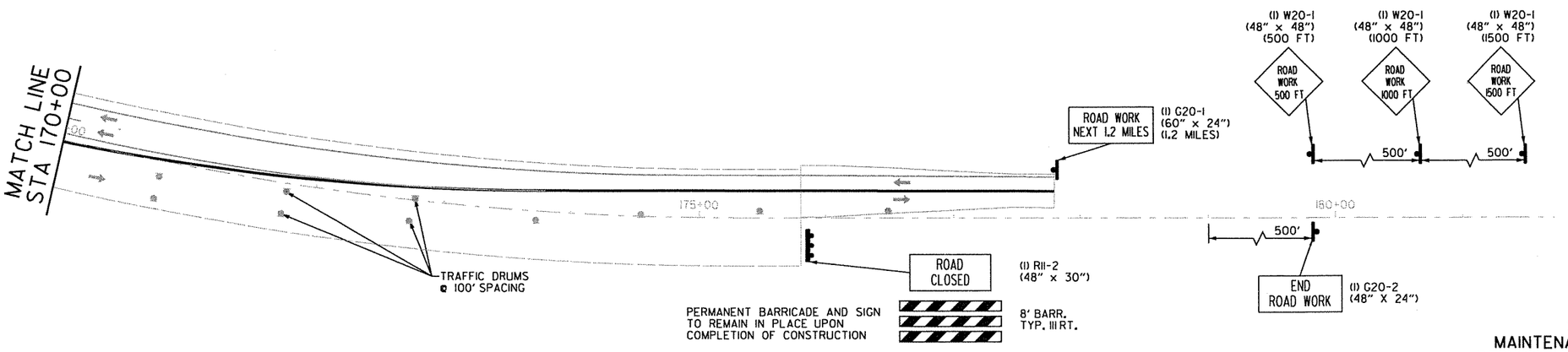
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-04-2012







STAGE 4
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 3 OF 3

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LEGEND

- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

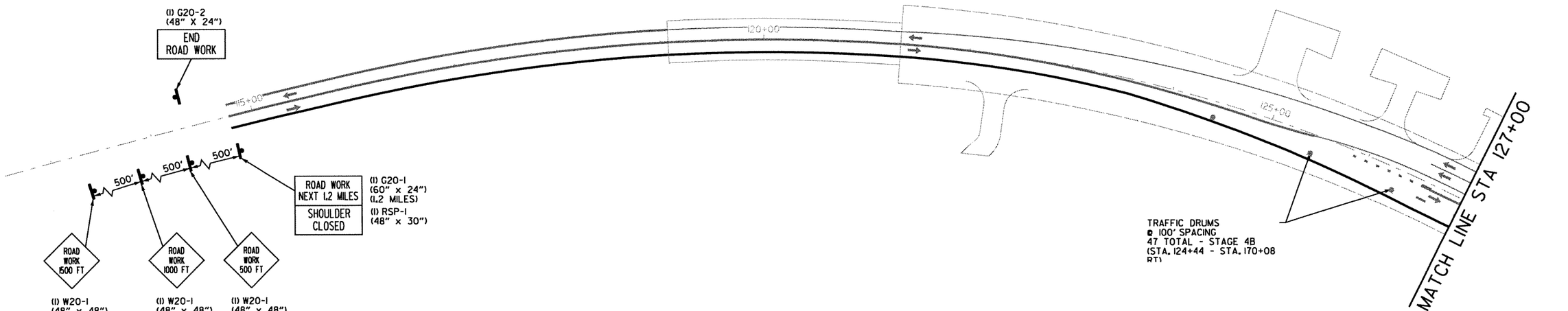
NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12406
SHAHRIAR AZAD
09-25-12

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	52	252

(2) MAINTENANCE OF TRAFFIC



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STAGE 4B
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 1 OF 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	53	252
				(2)	MAINTENANCE OF TRAFFIC			

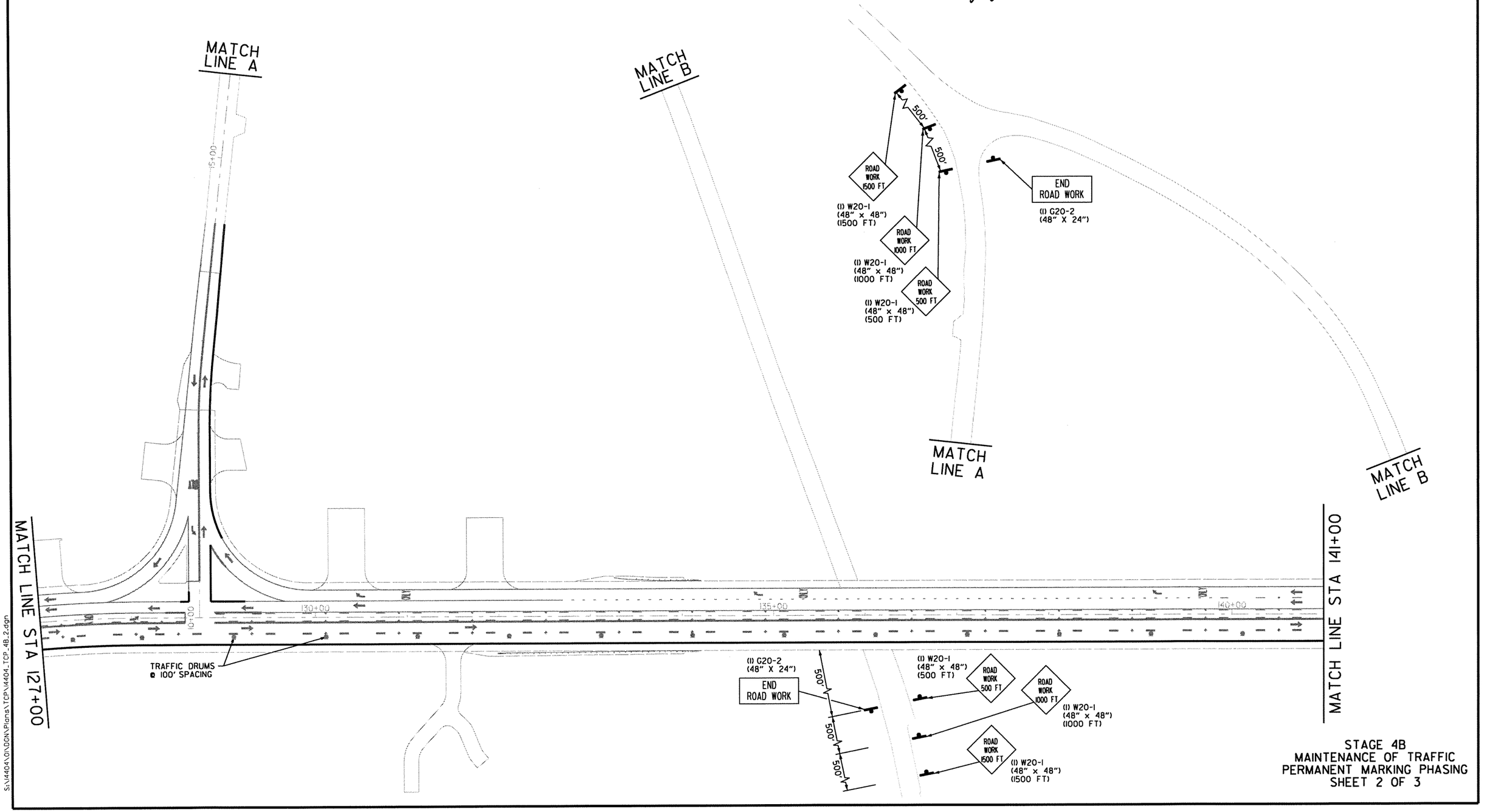
NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13404
SHANNON A. ALLEN
09-25-2012

LEGEND

- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.



STAGE 4B
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 2 OF 3

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LEGEND

- TRAFFIC FLOW
- PERMANENT PAVEMENT MARKINGS PLACED THIS STAGE
- CONSTRUCTION PAVEMENT MARKINGS (STAGE 3C) OR PERMANENT PAVEMENT MARKINGS PLACED PRIOR STAGE (STAGE 4 & 4B)
- CHANNELIZATION DEVICE (TRAFFIC DRUM)

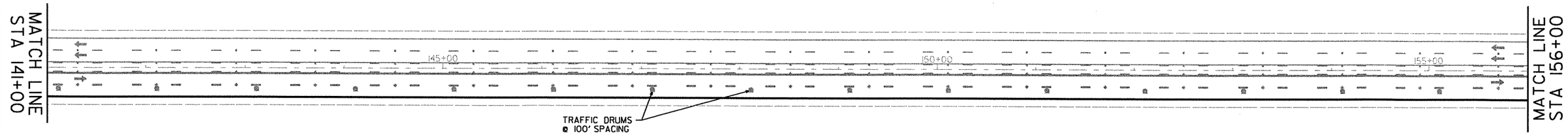
NOTE: PLACE "DO NOT PASS" SIGNS IF AND WHERE DIRECTED BY THE ENGINEER.

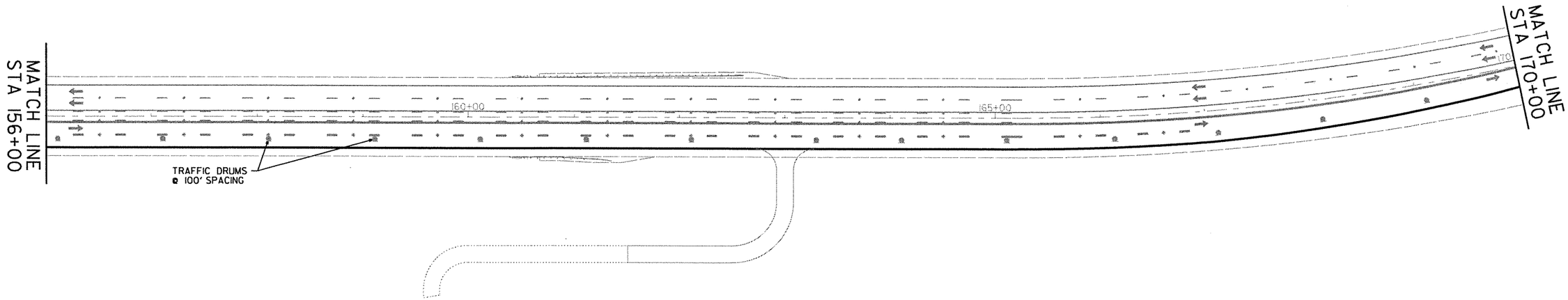
NOTE: REFER TO PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.

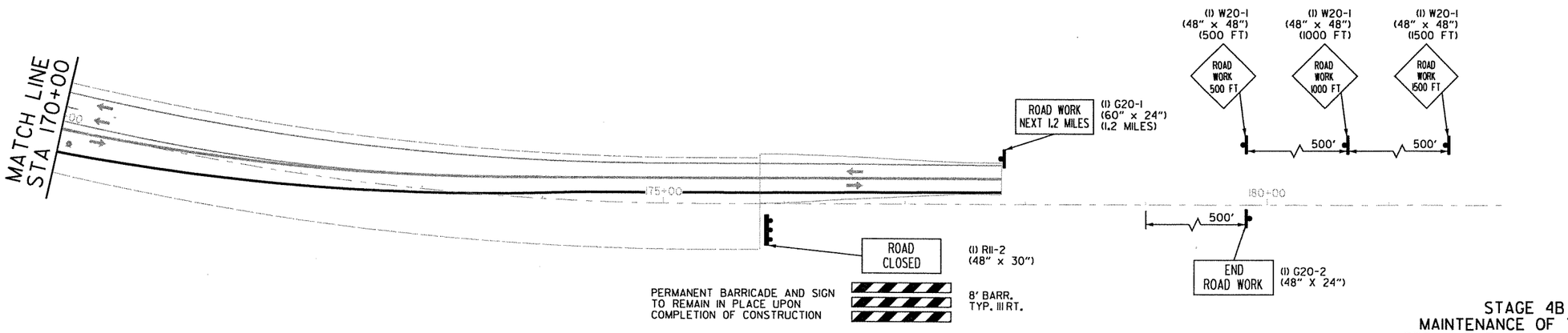
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No 12404
SHAHNAWAR AHAD
09-04-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	54	252

(2) MAINTENANCE OF TRAFFIC







STAGE 4B
MAINTENANCE OF TRAFFIC
PERMANENT MARKING PHASING
SHEET 3 OF 3

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	55	252

(2) **PERMANENT PAVEMENT MARKING DETAIL**

NOTE: R.P.M. - RAISED PAVEMENT MARKERS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12400
SHERRIAR AZAD
09-25-12

PCC STA. 114+76.79
-11.44'
STA. 114+76.79
PCC STA. 114+78.18
1°25'27" (4023.13')
1°25'42" (4011.46')
PCC STA. 115+76.79
-12.00'
1°25'27" (4023.46')
PCC STA. 116+07.16
-12.00'
PCC STA. 116+07.16
3°6'51" (1839.85')
3°8'5" (1827.85')
PCC STA. 119+07.43
-11.46'
PCC STA. 119+07.43
3°9'19" (1815.85')
PCC STA. 116+07.16
12.00'
1°25'57" (3999.65')
1°25'57" (3999.46')
0°25'23" (13539.39')
PCC STA. 115+76.79
12.00'
PCC STA. 114+76.79
11.57'
PCC STA. 119+07.43
11.69'
BEGIN 526' LANE DROP
PCC STA. 121+32.43
-12.00'
PCC STA. 121+32.43
3°6'53" (1839.57')
3°9'18" (1816.00')
3°8'5" (1827.85')
4" SOLID DOUBLE YELLOW
PCC STA. 121+32.43
12.00'
3°56'10" (1455.63')
4°33'41" (1256.10')
4°31'6" (1268.10')
4" SOLID DOUBLE YELLOW
PRC STA. 124+88.43
4.47'
PRC STA. 125+43.05
1.49'
3°36'10" (1590.35')
10°0'0" (572.96')
3°42'51" (1542.67')
STA. 125+85.08
5.31'
PCC STA. 123+64.58
2.43'
BEGIN 300' TAPER
PCC STA. 123+58.00
14.30'
STA. 126+58.00
-17.50'
PCC STA. 126+58.00
-5.50'
10°0'0" (572.96')
STA. 126+58.00
-17.50'
END 526' LANE DROP
PCC STA. 126+58.00
-29.50'
4" SOLID WHITE
4" DASH WHITE (2' SEGMENT, 6' GAP)
3°36'10" (1590.35')
PCC STA. 126+58.00
5.50'
STA. 126+58.00
17.50'
END 300' TAPER
PCC STA. 126+58.00
29.50'
4" SKIP WHITE & TYPE II R.P.M. 80' O.C.
4" SOLID WHITE
4" SOLID WHITE
MATCH LINE STA 127+00

LOCATION	STATION	DESCRIPTION
1	127+58.00	US 63 WORD "ONLY"
2	128+08.00	TURN ARROW FOR US 63 (EB)
3	130+44.00	TURN ARROW FOR US 63 (WB)
4	130+94.00	US 63 WORD "ONLY"
5	134+78.00	TURN ARROW FOR US 63 (WB)
6	135+28.00	US 63 WORD "ONLY"
7	139+13.00	TURN ARROW FOR US 63 (WB)
8	139+63.00	US 63 WORD "ONLY"
9	10+89.50	TURN ARROW FOR 3RD ST (SB)
10	11+39.50	3RD ST WORD "ONLY"

STA. 14+28.56
STA. 14+28.56
-10.61'
STA. 14+28.56
10.38'
STA. 13+28.56
-12.00'
STA. 13+28.56
12.00'
STA. 12+87.64
-12.00'
PT STA. 12+87.64
12.00'
7°6'15" (806.51')
7°0'0" (818.51')
WORD "ONLY"
TURN ARROW WHITE
4" SOLID DBL. YELLOW
STA. 11+10.18
-12.00'
PC STA. 12+00.29
PT STA. 11+24.52
-24.87'
PC STA. 12+00.29
12.00'
PRC STA. 127+47.68
-29.50'
PT STA. 11+37.50
12.00'
PRC STA. 127+73.31
-17.50'
#10
STA. 10+78.64
12.00'
4" SOLID WHITE
46°34'55" (123.00')
53°3'6" (108.00')
8" SOLID WHITE
4" SOLID WHITE
MATCH LINE STA 127+00
#9
#1
#2
#3
#4
#5
#6
#7
#8
50'
WORD "ONLY"
TURN ARROW WHITE
STA. 128+58.00
-5.50'
12" STOP BAR WHITE
4" SOLID DOUBLE YELLOW
4" SOLID WHITE
STA. 10+39.50
STA. 128+86.00
-17.50'
STA. 128+90.00
-5.50'
STA. 128+90.00
5.50'
12" STOP BAR WHITE
STA. 128+62.00
-17.50'
STA. 128+58.00
5.50'
46°34'55" (123.00')
53°3'6" (108.00')
STA. 129+67.00
-17.50'
PC STA. 129+94.00
-29.50'
TURN ARROW WHITE
WORD "ONLY"
8" SOLID WHITE
4" SOLID YELLOW, 4" SKIP YELLOW & TYPE II R.P.M. 80' O.C.
4" SOLID WHITE
STA. 132+67.00
-17.50'
BEGIN CONCRETE BRIDGE PAVEMENT MARKING STA. 134+01.83
TURN ARROW WHITE
WORD "ONLY"
8" DASH WHITE (3' SEGMENT, 9' GAP)
TURN ARROW WHITE
WORD "ONLY"
STA. 139+87.00
-17.50'
4" SKIP WHITE & TYPE II R.P.M. 80' O.C.
MATCH LINE STA 141+00

PERMANENT PAVEMENT MARKING DETAIL
SHEET 1 OF 2

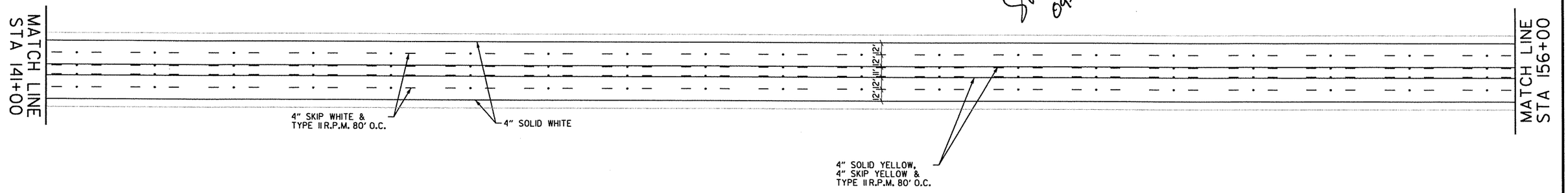
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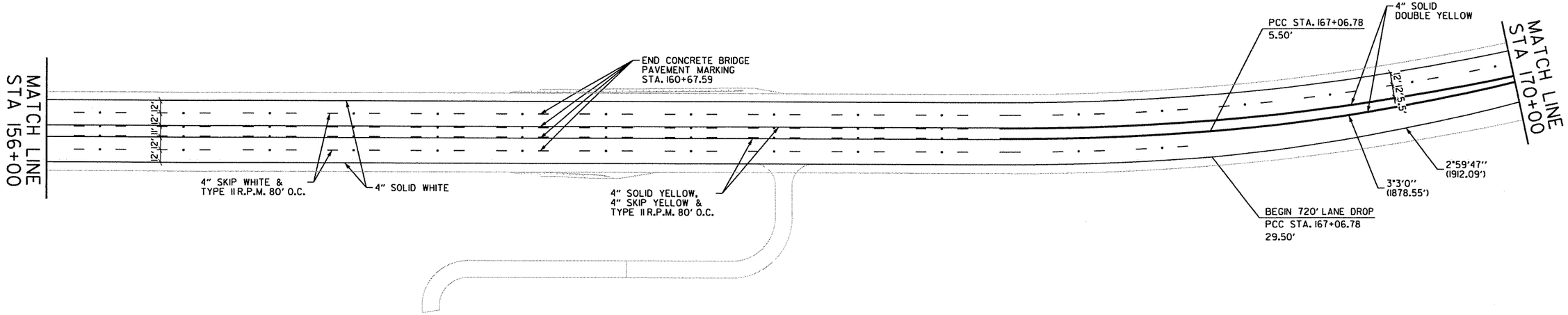
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	56	252

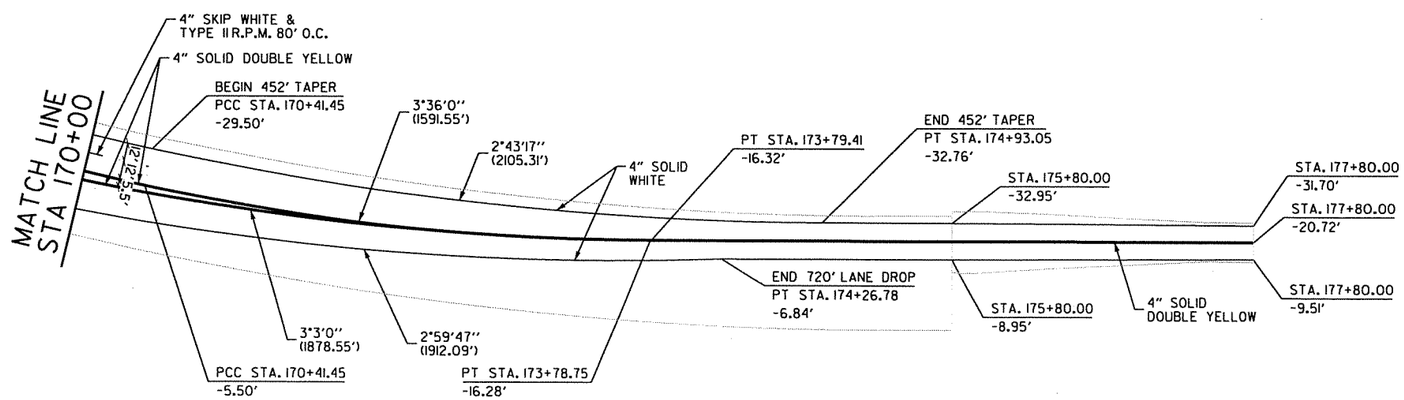
(2) **PERMANENT PAVEMENT MARKING DETAIL**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-04-2012

NOTE: R.P.M. - RAISED PAVEMENT MARKERS







PERMANENT PAVEMENT
MARKING DETAIL
SHEET 2 OF 2

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	57	252
				②		SOIL LOG		

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

SOIL LOG

STATION	LOCATION	DEPTH (FT.)	A.A.S.H.T.O. CLASSIFICATION	LIQUID LIMIT	PLASTICITY INDEX	REMARKS
122+40	32' RT	1-2	A-7-6	41	25	TAN
122+40	32' RT	4.5-5.5	A-2-4	17	3	REDDISH TAN AND BROWN
126+90	75' LT	2.5-3.5	A-2-4	NP	NP	OLIVE GRAY
126+90	75' LT	6.5-7.5	A-7-6	54	35	TAN, GRAY AND YELLOWISH RED
126+90	75' LT	14-15	A-4	NP	NP	BROWNISH YELLOW
126+90	75' LT	23.5-24.5	A-2-4	NP	NP	BROWNISH YELLOW
132+30	25' LT	0.5-1.5	A-2-4	22	5	BROWN
132+30	25' LT	4.5-5.5	A-2-4	24	8	TAN
132+30	25' LT	6.5-7.5	A-7-6	61	40	LIGHT GRAY AND TAN
134+00	35' LT	2.5-3.5	A-6	28	13	BROWN
134+00	35' LT	6.5-7.5	A-7-6	41	24	TAN, GRAYISH BROWN AND GRAY
134+00	35' LT	14-15	A-6	30	14	TAN, GRAYISH BROWN AND GRAY
134+00	35' LT	24-25	A-6	27	14	GRAY, REDDISH TAN AND TAN
134+00	35' LT	29-30	A-4	27	7	YELLOWISH TAN
134+00	35' LT	34-35	A-6	33	19	YELLOWISH TAN, GRAY AND REDDISH TAN
136+35	30' LT	2.5-3.5	A-2-6	39	20	DARK BROWN
136+35	30' LT	4.5-5.5	A-7-6	51	30	BROWN
140+30	CL	2.5-3.5	A-4	26	9	BROWN
140+30	CL	4.5-5.5	A-4	24	8	BROWN
140+30	CL	9-10	A-2-4	NP	NP	BROWN
140+30	CL	29-30	A-1-b	NP	NP	REDDISH TAN
142+00	12' LT	4-5	A-4	24	8	DARK BROWN
142+00	12' LT	9-10	A-3	NP	NP	BROWN
142+00	12' LT	24-25	A-3	NP	NP	BROWN
142+00	12' LT	28.5-29	A-1-a	NP	NP	BROWN
142+93	28' LT	2.5-3.5	A-4	17	2	BROWN
142+93	28' LT	6.5-7.5	A-2-4	NP	NP	TAN
142+93	28' LT	24-25	A-3	NP	NP	GRAYISH BROWN
142+93	28' LT	29-30	A-1-a	NP	NP	GRAYISH BROWN
144+12	15' LT	4-5	A-2-6	34	15	DARK BROWN
144+12	15' LT	14-15	A-3	NP	NP	BROWN
144+12	15' LT	29-30	A-1-b	NP	NP	GRAY
145+05	22' LT	2.5-3.5	A-6	29	11	DARK BROWN
145+05	22' LT	6.5-7.5	A-4	27	10	GRAYISH BROWN
145+05	22' LT	9-10	A-4	20	3	BROWN
145+05	22' LT	14-15	A-4	23	6	BROWNISH GRAY
145+05	22' LT	24-25	A-4	31	7	BROWNISH GRAY
145+98	20' LT	9-10	A-4	20	5	BROWN
145+98	20' LT	19-20	A-3	NP	NP	BROWN
145+98	20' LT	24-25	A-3	NP	NP	GRAY
145+98	20' LT	29-30	A-2-4	NP	NP	GRAY
147+17	15' LT	2.5-3.5	A-6	28	11	GRAYISH BROWN
147+17	15' LT	9-10	A-6	33	15	GRAYISH BROWN
147+17	15' LT	14-15	A-4	NP	NP	GRAY
147+17	15' LT	19-20	A-2-4	NP	NP	BROWN
147+17	15' LT	34-35	A-1-b	NP	NP	TAN
149+03	15' LT	2.5-3.5	A-6	36	17	GRAYISH BROWN
149+03	15' LT	6.5-7.5	A-2-4	NP	NP	BROWN
149+03	15' LT	14-15	A-2-4	NP	NP	BROWNISH GRAY
149+03	15' LT	19-20	A-2-4	NP	NP	TAN
149+03	15' LT	29-30	A-1-b	NP	NP	GRAY
151+15	19' LT	6.5-7.5	A-6	29	13	GRAYISH BROWN
151+15	19' LT	14-15	A-2-4	NP	NP	TAN
151+15	19' LT	24-25	A-3	NP	NP	GRAY
153+27	15' LT	2.5-3.5	A-6	32	12	TAN AND BROWN
153+27	15' LT	9-10	A-6	35	16	GRAYISH BROWN
153+27	15' LT	19-20	A-2-4	NP	NP	GRAY
153+27	15' LT	24-25	A-3	NP	NP	GRAY

SOIL LOG

STATION	LOCATION	DEPTH (FT.)	A.A.S.H.T.O. CLASSIFICATION	LIQUID LIMIT	PLASTICITY INDEX	REMARKS
155+13	19' LT	2.5-3.5	A-6	33	15	GRAYISH BROWN
155+13	19' LT	4.5-5.5	A-6	37	18	GRAYISH BROWN
155+13	19' LT	14-15	A-6	33	15	BROWN
155+13	19' LT	19-20	A-4	26	6	BROWNISH GRAY
155+13	19' LT	29-30	A-4	NP	NP	BROWNISH GRAY
155+13	19' LT	34-35	A-4	NP	NP	BROWNISH GRAY
157+25	14' LT	14-15	A-6	33	15	GRAYISH BROWN
157+25	14' LT	24-25	A-2-4	NP	NP	GRAY
157+25	14' LT	34-35	A-2-4	NP	NP	GRAY
158+10	10' RT	6.5-7.5	A-6	31	13	BROWN
158+10	10' RT	14-15	A-2-4	NP	NP	BROWN
158+10	10' RT	19-20	A-2-4	NP	NP	GRAY
158+10	10' RT	29-30	A-2-4	NP	NP	GRAY
159+29	15' RT	9-10	A-6	36	18	TAN
159+29	15' RT	14-15	A-6	39	21	GRAY AND BROWN
159+29	15' RT	24-25	A-3	NP	NP	BROWN
159+29	15' RT	39-40	A-1-b	NP	NP	BROWN
159+29	15' RT	49-50	A-1-b	NP	NP	GRAY
160+30	10' RT	4.5-5.5	A-6	34	18	BROWNISH GRAY
160+30	10' RT	19-20	A-6	24	13	BROWNISH GRAY
160+30	10' RT	24-25	A-2-4	NP	NP	BROWN AND GRAY
160+30	10' RT	38.5-39	A-3	NP	NP	BROWN
160+55	50' RT	2.5-3.5	A-6	32	12	BROWN
160+55	50' RT	9-10	A-6	35	17	GRAY AND TAN
160+55	50' RT	19-20	A-6	37	20	BROWN
160+55	50' RT	24-25	A-3	NP	NP	BROWN
160+55	50' RT	34-35	A-3	NP	NP	BROWNISH GRAY
160+55	50' RT	44-45	A-1-b	NP	NP	GRAYISH BROWN
165+10	CL	0.5-1.5	A-6	31	14	BROWN AND TAN
170+10	CL	2.5-3.5	A-4	22	7	LIGHT GRAY AND TAN
175+10	CL	2.5-3.5	A-6	40	22	TAN AND GRAY
175+10	CL	6.5-7.5	A-6	29	15	TAN, LIGHT TAN AND LIGHT GRAY
175+10	CL	19-20	A-2-4	21	4	BROWN
122+90	88' LT	4.5-5.5	A-2-4	19	6	REDDISH TAN
122+90	88' LT	9-10	A-7-6	42	26	YELLOWISH TAN
163+30	20' LT	0.5-1.5	A-6	34	13	REDDISH BROWN
163+30	20' LT	4.5-5.5	A-6	35	20	DARK GRAY, TAN AND REDDISH TAN
163+30	20' LT	9-10	A-6	34	16	DARK BROWN AND BROWN
134+25	12' LT	2.5-3.5	A-6	36	20	TAN AND LIGHT TAN
134+25	12' LT	4.5-5.5	A-2-4	NP	NP	TAN AND LIGHT TAN
134+25	12' LT	9-10	A-6	29	15	GRAYISH BROWN, REDDISH TAN AND TAN
134+25	12' LT	19-20	A-6	28	15	GRAY, REDDISH TAN AND TAN
133+95	12' LT	0.5-1.5	A-4	30	8	TAN AND LIGHT TAN
133+95	12' LT	2.5-3.5	A-2-4	24	12	GRAYISH BROWN, REDDISH TAN AND TAN
133+95	12' LT	6.5-7.5	A-6	30	14	BROWN, TAN AND GRAY
133+95	12' LT	14-15	A-6	29	16	GRAY AND TAN

NOTE: SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

SOIL LOG

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	58	252
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-04-2012

TRAFFIC CONTROL SIGNS, DEVICES & PAVEMENT MARKINGS

	SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 2B	STAGE 2C	STAGE 3	STAGE 3B	STAGE 3C	STAGE 4	STAGE 4B	MAX. QUANTITY REQUIRED	TOTAL SIGNS REQUIRED (SQ. FT.)
	G20-1	ROAD WORK NEXT XX MILES	(60" X 24")	2	2	2	2	2	2	2	2	2	2	20
	G20-2	END ROAD WORK	(48" X 24")	6	6	6	6	6	6	6	6	6	6	48
•	R4-1	DO NOT PASS	(36" X 48")	6	6	6	6	6	6	6	6	6	6	72
	RII-2	ROAD CLOSED	(48" X 30")	2	5	6	1	1	3	1	1	1	6	60
	RSP-1	SHOULDER CLOSED	(48" X 30")	2	2	2	2	2	2	2	1	1	2	20
	WI-4L	CURVE	(48" X 48")	0	2	2	2	2	2	2	0	0	2	32
	WI-4R	CURVE	(48" X 48")	0	0	0	4	4	3	3	0	0	4	64
	W20-1	ROAD WORK AHEAD	(48" X 48")	2	2	2	2	2	2	2	2	2	2	32
	W20-1	ROAD WORK 500 FT	(48" X 48")	4	4	4	4	4	4	4	4	4	4	64
	W20-1	ROAD WORK 1000 FT	(48" X 48")	4	4	4	4	4	4	4	4	4	4	64
	W20-1	ROAD WORK 1500 FT	(48" X 48")	4	4	4	4	4	4	4	4	4	4	64
•		BOATER SAFETY (SIGN DETAIL A)	(60" X 36")	0	5	5	5	5	0	0	0	0	5	75
•		BOATER SAFETY (SIGN DETAIL B)	(60" X 36")	0	5	5	5	5	0	0	0	0	5	75
													TOTAL	690

• IF AND WHERE DIRECTED BY THE ENGINEER. QUANTITY ESTIMATED (REFER TO SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

TRAFFIC DRUMS	38	94	101	158	148	179	145	119	47	179	EACH
VERTICAL PANELS	0	10	0	0	0	10	0	0	0	10	EACH
TYPE III BARRICADE (RIGHT)	8	24	32	8	8	8	8	8	8	32	LIN. FT.
TYPE III BARRICADE (LEFT)	16	24	24	0	0	16	0	0	0	24	LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	0	800	800	800	0	0	0	0	0	800	LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS	7154	4135	0	0	538	0	0	0	0	11,827	LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER	0	4	4	4	0	0	0	0	0	4	EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	0	4	4	4	0	0	0	0	0	4	EACH

CONSTRUCTION & PERMANENT PAVEMENT MARKINGS

	DESCRIPTION	UNITS	STAGE 1	STAGE 2	STAGE 2B	STAGE 2C	STAGE 3	STAGE 3B	STAGE 3C	FINAL	TOTAL REQUIRED
	CONSTRUCTION PAVEMENT MARKINGS YELLOW (4")	LIN. FT.	3,574	5,658	0	0	7,890	874	0	0	17,996
	CONSTRUCTION PAVEMENT MARKINGS WHITE (4")	LIN. FT.	3,574	5,658	0	0	7,795	547	516	0	18,090
	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	LIN. FT.	0	5,785	0	1,810	0	243	180	16,190	24,208
	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	LIN. FT.	0	0	0	0	10,664	0	0	0	10,664
▲	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") - ALTERNATE NO. 1	LIN. FT.	0	0	0	0	0	0	0	6,665	6,665
▲	HIGH PERFORMANCE MARKING TAPE YELLOW (4") - ALTERNATE NO. 2	LIN. FT.	0	0	0	0	0	0	0	6,665	6,665
▲	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") - ALTERNATE NO. 1	LIN. FT.	0	0	0	0	0	0	0	1,187	1,187
▲	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") - ALTERNATE NO. 2	LIN. FT.	0	0	0	0	0	0	0	1,187	1,187
▲	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8") - ALTERNATE NO. 1	LIN. FT.	0	0	0	0	0	0	0	147	147
▲	HIGH PERFORMANCE MARKING TAPE WHITE (8") - ALTERNATE NO. 2	LIN. FT.	0	0	0	0	0	0	0	147	147
	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	LIN. FT.	0	0	0	0	0	0	0	14,198	14,198
	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	LIN. FT.	0	0	0	0	0	0	0	10,190	10,190
	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	LIN. FT.	0	0	0	0	0	0	0	899	899
	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	LIN. FT.	0	0	0	0	0	0	0	25	25
	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	EACH	0	0	0	0	0	0	0	5	5
	THERMOPLASTIC PAVEMENT MARKING (WORDS)	EACH	0	0	0	0	0	0	0	5	5
	RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED)	EACH	0	0	0	0	0	0	0	89	89
	RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW)	EACH	0	0	0	0	0	0	0	91	91

▲ DENOTES ALTERNATE BID ITEMS

THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003

SIGNS & BARRICADES LEFT IN PLACE

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 2B	STAGE 2C	STAGE 3	STAGE 3B	STAGE 3C	STAGE 4	STAGE 4B	LEFT IN PLACE	TOTAL SIGNS REQUIRED (SQ. FT.)	TOTAL BARRICADES REQUIRED (LIN. FT.)
RII-2	ROAD CLOSED	(48" X 30")	0	0	0	0	0	0	0	0	0	1	10	0
-	TYPE III BARRICADE (RIGHT)	(96" X 36")	0	0	0	0	0	0	0	0	0	1	0	8
												TOTAL	10	8

THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003

ASPHALT CONCRETE PATCHING FOR M.O.T.

LOCATION	•ASPH. CONC. PATCHING FOR MOT	•TACK COAT
	TON	GAL.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	8	16
TOTAL	8	16

• QUANTITY ESTIMATED
(REFER TO SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

GUARDRAIL

STATION	STATION	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POSTS (TYPE I)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
		LIN. FT.	EACH	EACH	EACH
132+00.19 TO 134+18.94	US 63 RT	150		1	1
133+25.19 TO 134+18.94	US 63 LT	75	1		1
160+40.49 TO 162+59.24	US 63 LT	150		1	1
160+40.49 TO 161+34.24	US 63 RT	75	1		1
TOTAL		450	2	2	4

NOTE: ADDITIONAL SURFACE COURSE AND AGGREGATE BASE COURSE DUE TO WIDENING FOR GUARDRAIL ARE QUANTIFIED UNDER BASE AND SURFACING TABULATED QUANTITIES.

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	59	252
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

APPROACH SLAB AND GUTTERS

LOCATION / DESCRIPTION	APPROACH SLAB (TYPE SPECIAL I)			LEFT APPROACH GUTTER TYPE 'C'			RIGHT APPROACH GUTTER TYPE 'C'			DRAWING NUMBER
	SLAB WIDTH	APPROACH SLAB	REINFORCING STEEL ROADWAY (GRADE 60)	GUTTER WIDTH	APPROACH GUTTER (TYPE C)	REINFORCING STEEL ROADWAY (GRADE 60)	GUTTER WIDTH	APPROACH GUTTER (TYPE C)	REINFORCING STEEL ROADWAY (GRADE 60)	
	FT.	CU. YD.	LB.	FT.	CU. YD.	LB.	FT.	CU. YD.	LB.	
BRIDGE OVER BLACK RIVER										
BEGIN BRIDGE APPROACH	59	120.95	27,533	8	14.79	807	8	14.79	807	2016C, 53168
END BRIDGE APPROACH	59	120.95	27,533	8	14.79	807	8	14.79	807	2016C, 53168
TOTAL	-	241.90	55,066	-	29.58	1,614	-	29.58	1,614	

CLEARING & GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STA	STA
119+00	142+00	US 63	23	23
153+00	178+00	US 63	25	25
10+00	15+00	3RD ST	5	5
TOTAL			53	53

CONCRETE ISLAND

STATION	STATION	LOCATION	CONCRETE ISLAND
			SQ. YD.
10+37.50	10+78.61	3RD ST - LT	70
TOTAL			70

6" NOR. UNIFORM THICKNESS CONCRETE ISLAND WITH TYPE "B" CURB FACE (TYPICAL ALL SIDES).

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)
			LIN. FT.
133+20	134+05	US 63 - LT	206
133+80	134+05	US 63 - RT	94
160+55	161+00	US 63 - LT	135
160+55	161+00	US 63 - RT	116
177+35	177+85	US 63 - LT	111
177+35	177+85	US 63 - RT	146
TOTAL			808

BENCH MARKS

LOCATION	BENCH MARK
	EACH
ENTIRE PROJECT	4
TOTAL	4

FOR INFORMATION ONLY. BENCH MARKS TO BE FURNISHED AND INSTALLED BY OTHERS.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVERAGE WIDTH	COLD MILLING ASPHALT PAVEMENT
			LIN. FT.	SQ. YD.
119+07.43	119+35.43	US 63	40	125
177+30.00	177+80.00	US 63	28	156
12+25.00	12+75.00	3RD ST	5	28
13+25.00	13+75.00	3RD ST	24	134
TOTAL				443

AVERAGE DEPTH = 1"

P.C.C. DRIVEWAYS

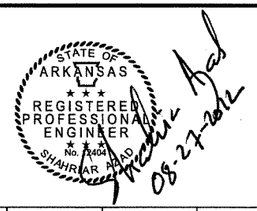
STATION	DESCRIPTION	WIDTH	PORTLAND CEMENT CONCRETE DRIVEWAY
		LIN. FT.	SQ. YD.
127+08.00	LT. US 63	40	327.45
11+66.19	LT. 3RD ST	40	156.56
TOTAL			484.01

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN. FT.
160+67.59	176+69.21	US 63 - LT	1589
160+67.59	176+55.88	US 63 - RT	1531
TOTAL			3120

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	60	252

(2) QUANTITIES

REMOVAL AND DISPOSAL ITEMS

STATION	STATION	LOCATION	DESCRIPTION	CURB AND GUTTER	GATES	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	PIPE CULVERTS	CONCRETE RIPRAP	LUMINAIRE POLE AND FOUNDATION	BUILDINGS	POST	SIGN FOUNDATION	SIGNS	MAILBOXES	GUARDRAIL	WATER SPIGOT
				LIN. FT.	EACH	SQ. YD.	SQ. YD.	EACH	SQ. YD.	EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.	EACH
120+00	120+00	RT US 63	SIGN											1			
122+08	122+50	RT US 63	36" x 40' C.M. PIPE CULVERT					1									
122+92	122+92	LT US 63	GATE		1												
122+92	122+92	LT US 63	SIGN											1			
123+04	123+04	LT US 63	WATER SPIGOT														1
123+71	123+71	RT US 63	SIGN											1			
124+63	125+13	LT US 63	18" x 52' PIPE CULVERT					1									
124+68	124+68	LT US 63	SIGN											1			
124+68	124+68	LT US 63	SIGN FOUNDATION										1				
125+94	126+22	LT US 63	18" x 29' PIPE CULVERT					1									
126+44	126+44	LT US 63	SIGN											2			
126+81	127+39	LT US 63	CONCRETE DRIVEWAY				202										
126+92	126+92	LT US 63	SIGN											1			
127+73	127+73	LT US 63	SIGN											1			
127+73	127+73	LT US 63	SIGN FOUNDATION										1				
127+73	127+73	LT US 63	2' DIA. CONCRETE POST; 39" TALL									1					
128+67	128+67	LT US 63	SIGN											1			
128+88	128+88	LT US 63	SIGN											1			
129+76	129+76	LT US 63	SIGN											1			
129+78	129+78	LT US 63	SIGN											1			
129+78	130+03	RT US 63	BUILDING								1						
129+80	130+33	LT US 63	12" x 53' C.M. PIPE CULVERT					1									
129+86	129+86	LT US 63	SIGN											1			
130+25	130+78	RT US 63	BUILDING								1						
131+03	131+03	LT US 63	SIGN											1			
131+03	131+03	LT US 63	SIGN											2			
132+50	132+50	RT US 63	MAILBOX												1		
132+50	134+25	RT US 63	GUARDRAIL													175	
132+51	134+26	LT US 63	GUARDRAIL													175	
132+58	132+58	LT US 63	SIGN											1			
132+58	132+58	LT US 63	SIGN											1			
133+84	134+14	LT US 63	SIGN											6			
134+23	134+23	LT US 63	SIGN											1			
135+37	135+37	LT US 63	BRIDGE MOUNTED SIGN •											-			
135+37	135+37	LT US 63	BRIDGE MOUNTED SIGN •											-			
136+36	136+36	LT US 63	SIGN											1			
136+38	136+50	RT US 63	BUILDING								1						
136+42	136+80	RT US 63	BUILDING								1						
138+29	138+29	LT US 63	BRIDGE MOUNTED SIGN •											-			
142+50	142+50	LT US 63	BRIDGE MOUNTED SIGN •											-			
160+08	160+33	LT US 63	CONCRETE RIPRAP						84								
160+31	162+34	RT US 63	GUARDRAIL													203	
160+33	162+33	LT US 63	GUARDRAIL													199	
160+33	161+34	LT US 63	SIGN											8			
160+35	160+35	LT US 63	SIGN											1			
162+48	162+48	LT US 63	SIGN											1			
162+76	162+76	LT US 63	SIGN											1			
165+49	165+49	LT US 63	SIGN											1			
171+91	171+91	RT US 63	SIGN											1			
10+58	11+47	LT 3RD ST	CURB AND GUTTER	147													
10+74	11+34	LT 3RD ST	CONCRETE ISLAND			184											
10+74	10+74	LT 3RD ST	SIGN											1			
10+77	10+99	RT 3RD ST	CONCRETE ISLAND			29											
10+78	10+78	LT 3RD ST	SIGN											1			
10+92	10+92	RT 3RD ST	SIGN											1			
10+95	11+67	LT & RT 3RD ST	CONCRETE ISLAND			26											
11+06	11+06	RT 3RD ST	SIGN											1			
11+10	11+50	RT 3RD ST	12" x 44' C.M. PIPE CULVERT					1									
11+46	11+97	LT 3RD ST	CONCRETE DRIVEWAY				82										
11+54	11+54	RT 3RD ST	SIGN											1			
11+54	11+54	LT 3RD ST	SIGN											1			
11+67	11+67	RT 3RD ST	LUMINAIRE POLE AND FOUNDATION							1							
12+51	12+89	RT 3RD ST	18" x 37' PIPE CULVERT					1									
13+82	13+82	LT 3RD ST	SIGN											1			
33+57	33+57	RT AR 25	COMMERCIAL SIGN											1			
TOTAL				147	1	239	284	6	84	1	4	1	2	47	1	752	1

• SUBSIDIARY TO BRIDGE REMOVAL

NOTES:
1. PIPE CULVERT REMOVAL QUANTITIES SHALL INCLUDE REMOVAL AND DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS, IF APPLICABLE.
2. REMOVAL OF CONCRETE ISLANDS SHALL INCLUDE REMOVAL OF ADJACENT CURB AND GUTTER.
3. REMOVAL OF BUILDINGS SHALL INCLUDE REMOVAL OF CONCRETE FOUNDATION, IF ANY.
4. REMOVAL OF ALL SIGNS AND SIGN POLES TO BE SUBSIDIARY TO ITEM NUMBER 202 (REMOVAL AND DISPOSAL OF SIGNS).
   IN ADDITION, ANY SIGN FOUNDATIONS NOT LISTED ABOVE SHALL ALSO BE SUBSIDIARY TO ITEM NUMBER 202 (REMOVAL AND DISPOSAL OF SIGNS).
5. PROPOSED ROADWAY SIGNS TO BE HANDLED BY AHTD MAINTENANCE DIVISION. CONTRACTOR SHALL COORDINATE WITH MAINTENANCE DIVISION ON ALL SIGNING ITEMS INCLUDING WHICH EXISTING SIGNS SHALL BE DISPOSED AND WHICH EXISTING SIGNS SHALL BE REPLACED.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	61	252

2 QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNAR A. ALI
08-27-2012

BASE AND SURFACING - US 63

STATION	STATION	LOCATION	LENGTH	TRAVEL LANES	ACHM SURFACE COURSE (1/2") FIRST APPLICATION				ACHM SURFACE COURSE (1/2") SECOND APPLICATION				ACHM BINDER COURSE (1")				ACHM BASE COURSE (1-1/2")				TACK COAT 0.03 GAL. PER SQ. YD.			TACK COAT 0.10 GAL. PER SQ. YD.			AGGREGATE BASE COURSE (CLASS 7)	
				AVG. WIDTH	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GAL	AVG. WIDTH	SQ. YD.	GAL	TON/STA.	TON
			LIN. FT.	FEET	FEET				FEET				FEET				FEET				FEET			FEET				
119+07.43	121+32.43	US 63 - SE TRANS TO EXIST / OVERLAY	225.00	24.0	40.5	921.22	220	101.34	40.0	1,000.00	220	110.00	32.1	802.13	330	132.36	23.8	594.17	VAR	232.00	96.4	2,408.80	72.27	40.0	1,000.00	100.00	0.00	0.00
121+32.43	126+52.21	US 63 - MAX SE / NOTCH & OVERLAY	519.78	59.0	63.5	3,667.34	220	403.41	75.0	4,331.50	220	476.47	63.9	3,691.41	330	609.09	64.6	3,729.91	VAR	1,458.00	192.0	11,088.64	332.66	22.0	1,270.58	127.06	546.75	2,841.90
126+52.21	127+49.52	US 63 - SE TRANS / NOTCH & OVERLAY	97.32	59.0	63.5	686.65	220	75.54	75.0	811.00	220	89.21	63.9	691.16	330	114.05	64.6	698.37	550	192.06	192.0	2,076.16	62.29	17.0	183.83	18.39	VAR	552.00
127+49.52	129+50.00	US 63 - SE TRANS / NOTCH & OVERLAY / 3RD ST •	200.48	59.0	106.3	2,210.40	220	243.15	106.3	2,368.47	220	260.54	106.3	2,219.76	330	366.27	87.0	1,938.32	550	533.04	299.5	6,671.98	200.16	28.3	629.84	62.99	VAR	1,029.00
129+50.00	129+92.00	US 63 - SE TRANS / 3RD ST	42.00	59.0	68.3	318.71	220	35.06	79.6	371.59	220	40.88	68.7	320.72	330	52.92	69.4	323.89	550	89.07	206.4	963.32	28.90	0.0	0.00	0.00	VAR	266.00
129+92.00	132+82.21	US 63 - SE TRANS	290.21	59.0	63.5	2,047.60	220	225.24	75.0	2,418.42	220	266.03	63.9	2,061.03	330	340.07	64.6	2,082.53	550	572.70	192.0	6,191.15	185.74	0.0	0.00	0.00	VAR	1,489.00
132+82.21	134+01.83	US 63 - TANGENT	119.63	59.0	63.5	844.06	220	92.85	75.0	996.92	220	109.67	63.9	849.60	330	140.19	64.6	858.46	550	236.08	192.0	2,552.11	76.57	0.0	0.00	0.00	497.50	595.16
134+01.83	134+38.33	US 63 - APPROACH SLAB & GUTTERS																										
134+38.33	160+31.09	US 63 - BRIDGE																										
160+31.09	160+67.59	US 63 - APPROACH SLAB & GUTTERS																										
160+67.59	161+10.82	US 63 - TANGENT	43.23	59.0	63.5	305.02	220	33.56	75.0	360.25	220	39.63	63.9	307.02	330	50.66	64.6	310.22	550	85.32	192.0	922.24	27.67	0.0	0.00	0.00	497.50	215.07
161+10.82	166+50.82	US 63 - SE TRANS	540.00	59.0	63.5	3,810.00	220	419.10	75.0	4,500.00	220	495.00	63.9	3,835.00	330	632.78	64.6	3,875.00	550	1,065.63	192.0	11,520.00	345.60	0.0	0.00	0.00	VAR	2,842.00
166+50.82	170+40.00	US 63 - MAX SE	389.18	59.0	63.5	2,745.89	220	302.05	75.0	3,243.17	220	356.75	63.9	2,763.90	330	456.05	64.6	2,792.73	550	768.01	192.0	8,302.51	249.08	0.0	0.00	0.00	580.75	2,260.16
170+40.00	170+50.00	US 63 - SE TRANS	10.00	59.0	63.5	70.56	220	7.77	75.0	83.34	220	9.17	63.9	71.02	330	11.72	64.6	71.76	550	19.74	192.0	213.34	6.41	0.0	0.00	0.00	VAR	52.20
170+50.00	175+80.00	US 63 - SE TRANS / NOTCH & OVERLAY	530.00	59.0	63.5	3,739.45	220	411.34	75.0	4,416.67	220	485.84	63.9	3,763.99	330	621.06	64.3	3,786.56	VAR	1,404.00	191.7	11,289.99	338.70	17.8	1,050.00	105.00	VAR	2,345.00
175+80.00	177+80.00	US 63 - SE TRANS TO EXIST / OVERLAY	200.00	23.1	33.0	575.09	220	63.26	32.5	722.35	220	79.46	33.4	406.48	330	67.07	16.0	148.61	VAR	22.00	41.4	919.82	27.60	32.5	722.23	72.23	0.00	0.00
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER								25.00				25.00				100.00				100.00			50.00			50.00		100.00
		TOTAL	-	-	-	21,941.99	-	2,438.67	-	25,623.68	-	2,843.65	-	21,783.22	-	3,694.29	-	21,210.53	-	6,777.65	-	65,120.06	2,003.65	-	4,856.48	535.67	-	14,587.49

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 96.3%, ASPHALT BINDER (PG 70-22) = 3.7%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.9%, ASPHALT BINDER (PG 70-22) = 4.1%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 70-22) = 5.0%
Nmax = 160
• UP TO 3RD ST STA 11+00.00

BASE AND SURFACING - 3RD ST

STATION	STATION	LOCATION	LENGTH	TRAVEL LANES	ACHM SURFACE COURSE (1/2") FIRST APPLICATION				ACHM SURFACE COURSE (1/2") SECOND APPLICATION				ACHM BINDER COURSE (1")				ACHM BASE COURSE (1-1/2")				TACK COAT 0.03 GAL. PER SQ. YD.			TACK COAT 0.10 GAL. PER SQ. YD.			AGGREGATE BASE COURSE (CLASS 7)	
				AVG. WIDTH	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQ. YD.	GAL	AVG. WIDTH	SQ. YD.	GAL	TON/STA.	TON
			LIN. FT.	FEET	FEET				FEET				FEET				FEET				FEET			FEET				
11+00.00	12+25.00	3RD ST - NOTCH & OVERLAY	125.00	33.8	42.8	594.99	220	65.45	45.8	636.39	220	70.01	39.8	552.34	330	91.14	21.3	295.36	550	81.23	103.9	1,442.69	43.29	39.0	541.23	54.13	VAR	124.00
12+25.00	13+75.00	3RD ST - OVERLAY	150.00	24.0	24.5	300.34	220	33.04	27.5	458.71	220	50.46	12.5	129.99	330	21.45	5.6	15.51	550	4.27	42.6	710.00	21.30	27.5	458.71	45.88	VAR	20.00
		TOTAL	-	-	-	895.33	-	98.49	-	1,095.10	-	120.47	-	682.33	-	112.59	-	310.87	-	85.50	-	2,152.69	64.59	-	999.94	100.01	-	144.00

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 96.3%, ASPHALT BINDER (PG 70-22) = 3.7%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.9%, ASPHALT BINDER (PG 70-22) = 4.1%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 70-22) = 5.0%
Nmax = 160

BASE AND SURFACING - GUARDRAIL WIDENING

STATION	STATION	LOCATION	LENGTH	ACHM SURFACE COURSE (1/2")				AGGREGATE BASE COURSE (CLASS 7)	
				AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON		
			LIN. FT.	FEET				TON/STA.	TON
131+61.31	134+18.94	GUARDRAIL WIDENING US 63 RT	257.64	VAR	119.02	220	13.10	VAR	61.00
132+82.19	134+18.94	GUARDRAIL WIDENING US 63 LT	136.75	VAR	54.96	220	6.05	VAR	46.00
160+40.49	163+03.98	GUARDRAIL WIDENING US 63 LT	263.49	VAR	115.14	220	12.67	VAR	56.00
160+40.49	161+77.24	GUARDRAIL WIDENING US 63 RT	136.75	VAR	50.73	220	5.59	VAR	36.00
		TOTAL	-	-	339.85	-	37.41	-	199.00

BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 70-22) = 5.0%
Nmax = 160

BASE AND SURFACING - DRIVEWAYS

STATION	DESCRIPTION	WIDTH	AGGREGATE BASE 7" COMP. DEPTH		ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.)		AGGREGATE BASE 6" COMP. DEPTH	
			SQ. YD.	TON	SQ. YD.	TON	SQ. YD.	TON
		LIN. FT.						
122+30.00	RT. US 63	20	153.89	62.86	148.45	16.33		
124+90.00	LT. US 63	40	366.67	149.73	361.34	39.75		
126+08.00	LT. US 63	20	296.67	121.15	291.45	32.06		
127+08.00	LT. US 63	40						
130+34.00	LT. US 63	40	367.89	150.24	360.78	39.69		
131+50.00	RT. US 63	16	320.00	130.69	305.89	33.65		
131+42.17, 102.53' RT	US 63 DRIVEWAY DR07A	16	119.34	48.75	115.12	12.67		
131+85.00	LT. US 63	40	319.12	130.31	313.34	34.47		
163+00.00	RT. US 63	16	419.00	171.11	400.56	44.07	386.89	135.43
11+66.19	LT. 3RD ST	40						
11+76.50	RT. 3RD ST	34	127.00	51.87	124.23	13.67		
12+67.50	RT. 3RD ST - OVERLAY	25	97.00	39.63	94.78	10.43		
TEMPORARY APPROACHES •				150.00		0.00		
TOTAL			2,586.58	1,206.34	2,515.94	276.79	386.89	135.43

BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
Nmax = 115

• QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
(SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	62	252
				(2)		QUANTITIES		

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12403
SHAHRIAR AZAD
08-27-2012

BASE AND SURFACING - M.O.T. TEMP CONNECTIONS

BASELINE	STATION	STATION	LOCATION	LENGTH	TRAVEL LANES	ACHM SURFACE COURSE (1/2") (PG 70-22)			ACHM SURFACE COURSE (1/2") (PG 64-22)			ACHM BINDER COURSE (1")			TACK COAT Q03 GAL. PER SQ. YD.		AGGREGATE BASE COURSE (CLASS 7)		
					AVG. WIDTH	SQ. YD.	LBS. PER SQ. YD.	TON	SQ. YD.	LBS. PER SQ. YD.	TON	SQ. YD.	LBS. PER SQ. YD.	TON	SQ. YD.	GAL	IN.	CU. YD.	TON
				LIN. FT.	FEET														
US 63	116+14.56	124+60.88	STAGE 1 TEMP WIDENING - MATCH EXISTING SE	846.32	12.0	1516.67	220	166.84	0.00	220	0.00	1081.23	495	267.61	1065.23	31.96	8	470.31	987.66
US 63	118+09.50	121+32.43	STAGE 2 TEMP WIDENING - MATCH PROPOSED SE	322.93	12.0	415.78	220	45.74	0.00	220	0.00	288.78	495	71.48	283.00	8.49	8	139.84	293.67
US 63	127+86.66	128+62.99	STAGE 2 TEMP CONNECTION - SE TRANS	76.33	10.0	132.34	220	14.56	0.00	220	0.00	119.89	495	29.68	118.67	3.57	8	38.84	81.57
US 63	132+07.83	132+50.50	STAGE 2 TEMP CONNECTION - DRIVEWAY	42.67	10.0	0.00	220	0.00	85.72	220	9.43	0.00	0	0.00	0.00	0.00	7	18.08	37.97
US 63	162+88.00	163+12.00	STAGE 2 TEMP CONNECTION - DRIVEWAY	24.00	12.0	0.00	220	0.00	113.16	220	12.45	0.00	0	0.00	0.00	0.00	7	24.03	50.47
3RD ST	10+68.07	11+20.24	STAGE 2 TEMP CONNECTION - SE TRANS	52.17	10.0	76.67	220	8.44	0.00	220	0.00	62.34	495	15.43	61.23	1.84	8	22.35	46.94
3RD ST	12+72.58	14+28.56	STAGE 2 TEMP WIDENING - MATCH EXISTING SE	155.98	10.0	144.45	220	15.89	0.00	220	0.00	115.78	495	28.66	113.12	3.40	8	50.84	106.77
TEMP CONNECTION - DRIVEWAY - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER																	7	195.24	410.00
TOTALS						2,285.91		251.47	198.88		21.88	1,668.02		412.86	1,641.25	49.26			2015.05

BASIS OF ESTIMATE: ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.9%, ASPHALT BINDER (PG 70-22) = 4.1%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 70-22) = 5.0%
Nmax = 160

DRIVEWAY ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
Nmax = 115

SOIL STABILIZATION

LOCATION	TON
• ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	250
TOTAL	250

• QUANTITY ESTIMATED (REFER TO SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

BASE AND SURFACING - SUMMARY

LOCATION	AGGREGATE BASE COURSE (CLASS 7)	ACHM BASE COURSE (1-1/2") (PG 70-22)	ACHM BINDER COURSE (1") (PG 70-22)	ACHM SURFACE COURSE (1/2") (PG 70-22)	ACHM SURFACE COURSE (1/2") (PG 64-22)	TACK COAT
	TON					GAL
US 63	14,587.49	6,777.65	3,694.29	5,282.32	0.00	2,539.32
3RD ST	144.00	85.50	112.59	218.96	0.00	164.60
DRIVEWAYS	1,341.77	0.00	0.00	0.00	276.79	0.00
GUARDRAIL	199.00	0.00	0.00	37.41	0.00	0.00
M.O.T. TEMP CONNECTIONS	2,015.05	0.00	412.86	251.47	21.88	49.26
TOTAL	18,287.31	6,863.15	4,219.74	5,790.16	298.67	2,753.18

BASIS OF ESTIMATE: ACHM BASE COURSE (1 1/2") - MINERAL AGGREGATE = 96.3%, ASPHALT BINDER (PG 70-22) = 3.7%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.9%, ASPHALT BINDER (PG 70-22) = 4.1%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 70-22) = 5.0%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
Nmax = 115 (PG 64-22)
160 (PG 70-22)

NOTE: THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAY CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	W	CONCRETE DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	M. GAL.
123+05.00	123+80.00	US 63 - LT	87	4	38.67	39	0.5
• ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER					50.00	50	0.7
TOTAL					88.67	89	1.2

• QUANTITIES ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

BASIS OF ESTIMATE: WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	63	252
				(2)		QUANTITIES		

TEMPORARY EROSION CONTROL

LOCATION	TEMPORARY SEEDING	MULCH COVER	WATER	ROCK DITCH CHECKS (TYPE E-6)	SILT FENCE (TYPE E-11)	SEDIMENT BASIN (TYPE E-14)	SEDIMENT REMOVAL & DISPOSAL	OBLITERATION OF SEDIMENT BASIN
	ACRE		M. GAL.	CU. YD.	LIN. FT.	CU. YD.		
ENTIRE PROJECT - STAGE 1				18	968			
ENTIRE PROJECT - STAGE 2				162	9,359	335	356	
ENTIRE PROJECT - STAGE 3				54	99			335
• ENTIRE PROJECT	2.03	2.03	41.5	20	100	-	50	-
TOTALS	2.03	2.03	41.5	254	10,526	335	406	335

BASIS OF ESTIMATE: WATER = 20.4 M. G. PER ACRE TEMPORARY SEEDING
ROCK DITCH CHECKS = 6 CU. YD. PER LOCATION

TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION OF U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. QUANTITIES ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

EROSION CONTROL

STATION	STATION	LOCATION	LIME	SEEDING	MULCH COVER	WATER	SECOND SEEDING APPLICATION
			TON	ACRE		M. GAL.	ACRE
116+14	176+00	US 63 LT	17	8.49	8.49	866.0	8.49
118+09	176+36	US 63 RT	17	8.02	8.02	818.1	8.02
11+00	14+33	3RD ST LT	1	0.13	0.13	13.3	0.13
11+00	13+75	3RD ST RT	1	0.10	0.10	10.2	0.10
• ENTIRE PROJECT			1	0.25	0.25	25.5	0.25
TOTALS			37	16.99	16.99	1,733.1	16.99

BASIS OF ESTIMATE: WATER = 102 M.G. PER ACRE OF SEEDING
LIME = 2 TONS PER ACRE SEEDING

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
QUANTITIES ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

4" PIPE UNDERDRAINS

LOCATION	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
	LIN. FT.	EACH
• ENTIRE PROJECT (IF AND WHERE DIRECTED BY THE ENGINEER)	1,000	6
TOTALS	1,000	6

• QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU. YD.
• ENTIRE PROJECT (IF AND WHERE DIRECTED BY THE ENGINEER)	50
TOTAL	50

• QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12439
SHANNAR AZAR
08-27-2012

EARTHWORK SUMMARY

LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	COMPACTED EMBANKMENT (SPECIAL)
	CU. YD.	CU. YD.	CU. YD.
US 63 - Stage 1	262	5,038	0
US 63 - Stage 2	45,371	4,689	59,772
US 63 - Stage 3	9,146	6,090	3,673
3rd St - Stage 1	0	0	0
3rd St - Stage 2	169	39	0
3rd St - Stage 3	481	172	0
Driveways	860	3,025	0
TOTAL	56,289	19,053	63,445

TEMPORARY PIPE CULVERTS AND INLETS

DESCRIPTION	QUANTITY	UNITS	STANDARD DRAWINGS
• 12" TEMPORARY CULVERT	200	LIN. FT.	PCC-1, PCM-1, PCP-1, PCP-2
18" TEMPORARY CULVERT	401	LIN. FT.	PCC-1, PCM-1, PCP-1, PCP-2
DROP INLETS (TYPE RM)	1	EACH	FPC-9D

• IF AND WHERE DIRECTED BY THE ENGINEER. QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

SIDE DRAIN

BASELINE	STATION	STATION	DESCRIPTION	SIDE DRAIN		CULVERT CLEAN OUT	STANDARD DRAWINGS
				18"	36"		
				LF	LF	EACH	
US 63	119+10	119+10	CULVERT CLEAN OUT			1	
US 63	121+84	122+60	INSTALL RT SIDE DRAIN		72		PCC-1, PCM-1
US 63	124+52	125+22	INSTALL LT SIDE DRAIN	74			PCC-1, PCM-1
US 63	125+82	126+31	INSTALL LT SIDE DRAIN	52			PCC-1, PCM-1
US 63	126+74	127+41	INSTALL LT SIDE DRAIN	70			PCC-1, PCM-1
US 63	130+95	131+97	INSTALL RT SIDE DRAIN	64			PCC-1, PCM-1
US 63	131+49	132+27	INSTALL LT SIDE DRAIN	80			PCC-1, PCM-1
3RD ST	11+47	12+04	INSTALL RT SIDE DRAIN	58			PCC-1, PCM-1
3RD ST	12+48	12+94	INSTALL RT SIDE DRAIN	46			PCC-1, PCM-1
US 63	152+51	152+51	CULVERT CLEAN OUT			1	
TOTAL				444	72	2	

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
11/13/12			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	64	252
(1) 07263		Bridge Quantities		53094

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 100687

BRIDGE NUMBER	CODE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	802	802	803	SS & 804	SS & 804	807	808	812	816	816
				ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270 - GR 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
				UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	POUND	POUND	POUND	CU. IN.	EACH	SQ. YD.	CU. YD.
07263	X471	BLACK RIVER	END BENT 1			* 543	151.42		0.2	31,271	901	5,372	25,798.5		347	182
			INT. BENT 2				267.19			75,736		1,544	28,809.0			
			INT. BENT 3				580.67			144,109		1,544	28,809.0			
			INT. BENT 4				389.52			90,274		3,932	30,759.8			
			INT. BENTS 5,6,8,9,11 & 12				1,319.00			327,018		2,802	52,569.0			
			INT. BENTS 7 & 10				443.91			108,978		1,277	19,845.0			
			INT. BENTS 13, 16 & 19				337.74			106,699		1,915	29,767.5			
			INT. BENTS 14,15,17,18,20 & 21				628.93			203,797		2,802	52,569.0			
			END BENT 22			31	98.32		0.2	17,858	772	2,771	4,962.2		301	158
			760' CONT. COMP. PLATE GIRDER UNIT 1					1,799.75	138.6		472,331	~~4,138,029~~ 1 4,417,645		1		
			305' CONT. COMP. PLATE GIRDER UNITS 2-7					4,223.55	334.2		1,162,376	~~3,915,752~~ 1 3,862,226				
			SITE NO. 1 (BR. NO. 02112)		1											
			TOTALS FOR JOB NO. 100687		1	574	4,216.70	6,023.30	473.2	1,105,740	1,636,380	~~8,377,740~~ 1 8,303,830	273,889	1	648	340

BRIDGE NUMBER	CODE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP JOB 100687								
				ITEM	ARMORED JOINT WITH NEOPRENE STRIP SEAL	DRILLED SHAFT (36" DIA.)	DRILLED SHAFT (84" DIA.)	DRILLED SHAFT (108" DIA.)	PERMANENT STEEL CASING (120" DIA.)	CROSSHOLE SONIC LOGGING (36" DIA.)	CROSSHOLE SONIC LOGGING (84" DIA.)	CROSSHOLE SONIC LOGGING (108" DIA.)	CORING DRILLED SHAFT (1)
				UNIT	LIN. FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	LIN.FT.
07263	X471	BLACK RIVER	END BENT 1			333.5				1			30.5
			INT. BENT 2				100.0				1		20.0
			INT. BENT 3					212.5	142.5			5	42.5
			INT. BENT 4					212.5				1	42.5
			INT. BENTS 5,6,8,9,11 & 12				1,505.0				6		301.0
			INT. BENTS 7 & 10				590.0				2		118.0
			INT. BENTS 13, 16 & 19				750.0				3		150.0
			INT. BENTS 14,15,17,18,20 & 21				1,557.5				6		311.5
			END BENT 22		77		292.5				1		58.5
			760' CONT. COMP. PLATE GIRDER UNIT 1										
			305' CONT. COMP. PLATE GIRDER UNITS 2-7										
			SITE NO. 1 (BR. NO. 02112)										
			TOTALS FOR JOB NO. 100687		77	333.5	4,795.0	425.0	142.5	1	19	6	1,074.5

* May include rock excavation.

(1) Values shown for coring are an estimate only.

(1) Quantity Revised 11/13/12, STS

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

13 Nov 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SCHEDULE OF BRIDGE QUANTITIES
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	AKH	DATE:	8/27/12	FILENAME:	bl00678.ql
CHECKED BY:	STS	DATE:	8/27/12	SCALE:	none
DESIGNED BY:	ST	DATE:	7/24/12		

BRIDGE NO. 07263 DRAWING NO. 53094

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SUMMARY OF QUANTITIES (SHEET 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	53	STA.
201	GRUBBING	53	STA.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	147	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES	1	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS	239	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	284	SQ. YD.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	6	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE RIPRAP	84	SQ. YD.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	1	EACH
202	REMOVAL AND DISPOSAL OF BUILDINGS	4	EACH
202	REMOVAL AND DISPOSAL OF POSTS	1	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	2	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	47	EACH
202	REMOVAL AND DISPOSAL OF MAILBOXES	1	EACH
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL	752	LIN. FT.
202	REMOVAL AND DISPOSAL OF WATER SPIGOT	1	EACH
SP & 210	UNCLASSIFIED EXCAVATION	56,289	CU. YD.
SP & 210	COMPACTED EMBANKMENT	19,053	CU. YD.
SP & 210	COMPACTED EMBANKMENT (SPECIAL)	63,445	CU. YD.
SP & 210	SOIL STABILIZATION	250	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	18,287	TON
401	TACK COAT	2,769	GAL.
SP, SS & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	6,609	TON
SP, SS & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")	254	TON
SP, SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	4,047	TON
SP, SS & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")	173	TON
SP, SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	5,784	TON
SP, SS & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	15	TON
SP, SS & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	290	TON
412	COLD MILLING ASPHALT PAVEMENT	443	SQ. YD.
SP, SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	8	TON
504	APPROACH SLABS (TYPE SPECIAL 1)	241.90	CU. YD.
504	APPROACH GUTTERS (TYPE C)	59.16	CU. YD.
505	PORTLAND CEMENT CONCRETE DRIVEWAY	484.01	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	TRAFFIC CONTROL SUPERVISOR	1.00	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	12" TEMPORARY CULVERT	200	LIN. FT.
603	18" TEMPORARY CULVERT	401	LIN. FT.
SP, SS & 604	SIGNS	690	SQ. FT.
SP, SS & 604	SIGNS LEFT IN PLACE	10	SQ. FT.
SS & 604	BARRICADES	56	LIN. FT.
SP, SS & 604	BARRICADES LEFT IN PLACE	8	LIN. FT.
SS & 604	TRAFFIC DRUMS	179	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	800	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	36,086	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	10,664	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	24,208	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	11,827	LIN. FT.
SS & 604	VERTICAL PANELS	10	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER	4	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	4	EACH
605	CONCRETE DITCH PAVING (TYPE B)	89	SQ. YD.
SP, SS & 606	18" SIDE DRAIN	444	LIN. FT.
SP, SS & 606	36" SIDE DRAIN	72	LIN. FT.
606	SELECTED PIPE BEDDING	50	CU. YD.
609	DROP INLETS (TYPE RM)	1	EACH
611	UNDERDRAIN OUTLET PROTECTORS	6	EACH
611	4" PIPE UNDERDRAINS	1,000	LIN. FT.
SS & 617	GUARDRAIL (TYPE A)	450	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	2	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	2	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
619	WIRE FENCE (TYPE C)	808	LIN. FT.
620	LIME	37	TON
620	SEEDING	16.99	ACRE
620	MULCH COVER	19.02	ACRE
SS & 620	WATER	1,775.8	M. GAL.
621	TEMPORARY SEEDING	2.03	ACRE
621	SILT FENCE	10,526	LIN. FT.
621	SEDIMENT BASIN	335	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	335	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	406	CU. YD.
621	ROCK DITCH CHECKS	254	CU. YD.
623	SECOND SEEDING APPLICATION	16.99	ACRE
624	SOLID SODDING	89	SQ. YD.
632	CONCRETE ISLAND	70	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	3,120	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	14,198	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	899	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	25	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	10,190	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	5	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	5	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	180	EACH
• SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") - ALTERNATE NO. 1	6,665	LIN. FT.
• SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") - ALTERNATE NO. 2	6,665	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") - ALTERNATE NO. 1	1,187	LIN. FT.
• SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") - ALTERNATE NO. 2	1,187	LIN. FT.
• SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8") - ALTERNATE NO. 1	147	LIN. FT.
• SP	HIGH PERFORMANCE MARKING TAPE WHITE (8") - ALTERNATE NO. 2	147	LIN. FT.
SS & 804	REINFORCING STEEL - ROADWAY (GRADE 60)	58,294	LB.
SP	CULVERT CLEAN OUT	2	EACH

• DENOTES ALTERNATE BID ITEMS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13404

9-06-2012

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	100687	65	252

SUMMARY OF QUANTITIES

1 QUANTITIES REVISED 11/13/12, STS

SUMMARY OF QUANTITIES (SHEET 2 OF 2)

STRUCTURES OVER 20'-0" SPAN			
ITEM NUMBER	ITEM	QUANTITY	UNIT
205	REMOVAL OF EXISTING BRIDGE (SITE NO. 1)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	574	CU. YD.
802	CLASS S CONCRETE - BRIDGE	4,216.70	CU. YD.
802	CLASS S(AE) CONCRETE - BRIDGE	6,023.30	CU. YD.
803	CLASS I PROTECTIVE SURFACE TREATMENT	473.2	GAL.
SS & 804	REINFORCING STEEL - BRIDGE (GRADE 60)	1,105,740	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	1,636,380	POUND
807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270 - GR 50W) 1 8,303,830	~~8,377,740~~	POUND
808	ELASTOMERIC BEARINGS	273.889	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
816	FILTER BLANKET	648	SQ. YD.
816	DUMPED RIPRAP	340	CU. YD.
SP	ARMORED JOINT WITH NEOPRENE STRIP SEAL	77	LIN. FT.
SP	DRILLED SHAFT (36" DIAMETER)	333.5	LIN. FT.
SP	DRILLED SHAFT (84" DIAMETER)	4,795.0	LIN. FT.
SP	DRILLED SHAFT (108" DIAMETER)	425.0	LIN. FT.
SP	PERMANENT STEEL CASING (120" DIAMETER)	142.5	LIN. FT.
SP	CROSSHOLE SONIC LOGGING (36" DIAMETER)	1	EACH
SP	CROSSHOLE SONIC LOGGING (84" DIAMETER)	19	EACH
SP	CROSSHOLE SONIC LOGGING (108" DIAMETER)	6	EACH
SP	CORING DRILLED SHAFT	1,075	LIN. FT.

REVISION BOX

DATE	REVISION	SHEET NUMBER
11/13/12	ITEM 807 STRUCTURAL STEEL QUANTIIES REVISED	64, 66

STATE OF ARKANSAS
STEPHEN T. SMILEY
No. 13071
REGISTERED PROFESSIONAL ENGINEER

13 Nov 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11/13/12				6	ARK.	100687	66	252

2 SUMMARY OF QUANTITIES & REVISIONS

SUMMARY OF QUANTITIES & REVISIONS

8/27/2012 12:00:14 PM

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	67	252

(2) SURVEY CONTROL DETAILS

ALL BEARINGS ARE GRID
BASED ON GPS PTS 380004, 380009, 380010
ALL DISTANCES ARE GROUND

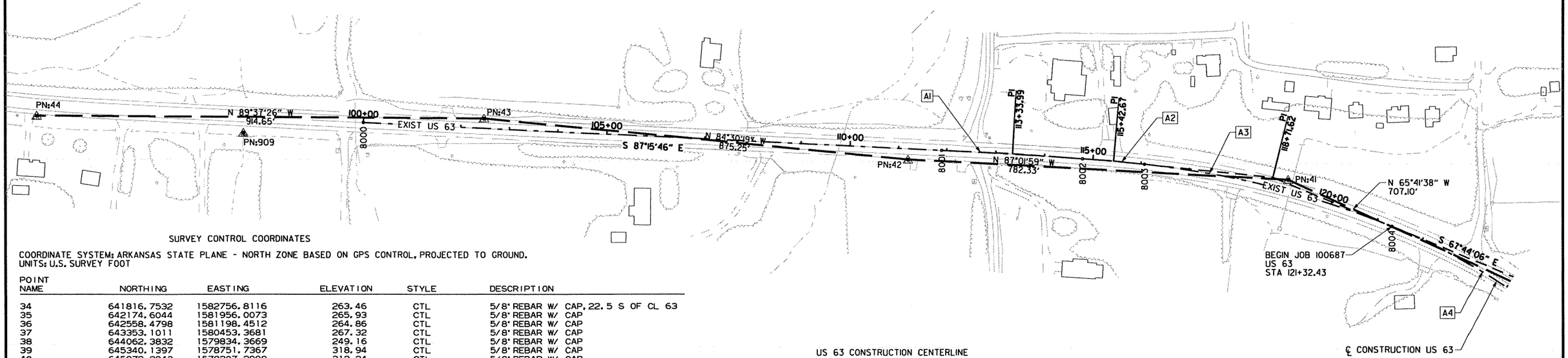
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

100 0 100 200
SCALE: 1" = 200'

A1
PI = 113+33.99
Δ = 1°13'13" RT
D = 0°25'23"
R = 13539.39'
T = 144.20'
L = 288.39'
PC = 111+89.79
PCC = 114+78.18

A2
PI = 115+42.67
Δ = 1°50'32" RT
D = 1°25'42"
R = 4011.46'
T = 64.50'
L = 128.98'
PCC = 114+78.18
PCC = 116+07.16

A3
PI = 118+71.62
Δ = 16°27'55" RT
D = 3°08'05"
R = 1827.85'
T = 264.46'
L = 525.28'
PCC = 116+07.16
PCC = 121+32.43
ROTATE S.E. AROUND CL
(TRANSITION TO EXISTING)



SURVEY CONTROL COORDINATES

COORDINATE SYSTEM: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
UNITS: U.S. SURVEY FOOT

POINT NAME	NORTHING	EASTING	ELEVATION	STYLE	DESCRIPTION
34	641816.7532	1582756.8116	263.46	CTL	5/8" REBAR W/ CAP, 22.5 S OF CL 63
35	642174.6044	1581956.0073	265.93	CTL	5/8" REBAR W/ CAP
36	642558.4798	1581198.4512	264.86	CTL	5/8" REBAR W/ CAP
37	643353.1011	1580453.3681	267.32	CTL	5/8" REBAR W/ CAP
38	644062.3832	1579834.3669	249.16	CTL	5/8" REBAR W/ CAP
39	645340.1397	1578751.7367	318.94	CTL	5/8" REBAR W/ CAP
40	645972.2943	1578207.2998	312.24	CTL	5/8" REBAR W/ CAP
41	646263.3438	1577562.8791	289.70	CTL	5/8" REBAR W/ CAP, 22.5 N OF CL OF 63
42	646303.8368	1576781.6017	295.44	CTL	5/8" REBAR W/ CAP
43	646387.6459	1575910.3774	295.72	CTL	5/8" REBAR W/ CAP
44	646393.6486	1574995.7479	286.00	CTL	5/8" REBAR W/ CAP
100	647132.1618	1572657.8173	345.71	GPS	AHTD GPS 380004
101	647207.3156	1574590.3625	300.64	GPS	AHTD GPS 380009
102	637624.7490	1588926.2874	260.57	GPS	AHTD GPS 380010
903	642181.0965	1581954.3504	266.77	TBM	CHSLD SQR SE CRNR BR
904	642668.1495	1581063.1805	265.01	TBM	904 2" ALUM CAP4' X5/8" RBR
905	643359.1278	1580454.6917	267.99	TBM	BOLT SE CRNR BR
907	645337.5701	1578755.5350	319.89	TBM	CHSLD SQR SW CRNR BR
908	645869.0765	1578367.8488	315.21	TBM	908 BOLT IN SIGN
909	646358.4271	1575418.4245	281.15	TBM	909 CHISELED SQUARE

•NOTE - REBAR AND CAP - STANDARD - 5/8" REBAR WITH 2" ALUMINUM CAP STAMPED
•(STANDARD MARKINGS COMMON TO ALL CAPS), OR AS INDICATED
(OTHER MARKINGS INDICATED IN THE POINT DESCRIPTION OF THE INDIVIDUAL POINT).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.999959546 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME S100686G1.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 380004, 380009, 380010
CONVERGENCE ANGLE: 0-31-36.35 RIGHT AT LT:36-05-57.6 LG:091-05-41.1
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

US 63 CONSTRUCTION CENTERLINE

POINT NUMBER	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	646379.2100	1575663.4197
8001	PC	111+89.79	646322.3940	1576851.8501
8002	PCC	114+78.18	646305.5558	1577139.7422
8003	PCC	116+07.16	646294.5872	1577268.2486
8004	PCC	121+32.43	646167.6618	1577776.0974
8005	PT	128+09.71	645775.0627	1578320.2382
8006	PC	165+15.82	642962.9677	1580734.2337
8007	PT	175+29.07	642362.4773	1581540.1328
8008	POE	183+93.81	642010.4140	1582329.9578

3RD ST CONSTRUCTION CENTERLINE

POINT NUMBER	TYPE	STATION	NORTHING	EASTING
8009	POB	10+00.00	645726.2812	1578362.1139
8010	PC	12+00.29	645856.7440	1578514.0917
8011	PT	12+87.64	645909.9978	1578583.2763
8012	POE	16+79.27	646131.9864	1578905.9157

AR 25 CONSTRUCTION CENTERLINE

POINT NUMBER	TYPE	STATION	NORTHING	EASTING
8013	POB	30+00.00	644886.9763	1578605.9737
8014	PC	31+26.59	644979.3231	1578692.5637
8015	PT	33+19.07	645133.9567	1578806.4086
8016	POE	39+92.80	645719.9624	1579138.8393

ALL BEARINGS ARE GRID
BASED ON GPS PTS 380004, 380009, 380010
ALL DISTANCES ARE GROUND

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	68	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12405
SHAHRIAR AFZAD
08-27-2012

100 0 100 200
SCALE: 1" = 200'

BI
PI = 12+44.01
Δ = 6°06'52" RT
D = 7°00'00"
R = 818.51'
T = 43.72'
L = 87.35'
PC = 12+00.29
PT = 12+87.64
N.C.

A4
PI = 124+77.52
Δ = 27°05'28" RT
D = 4°00'00"
R = 1432.39'
T = 345.09'
L = 677.28'
PCC = 121+32.43
PT = 128+09.71
e = 0.093'/'
Ls = 630'
ROTATE S.E. AROUND CL

CI
PI = 32+23.28
Δ = 13°35'31" LT
D = 7°03'42"
R = 811.36'
T = 96.69'
L = 192.47'
PC = 31+26.59
PT = 33+19.07

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	69	252

(2) SURVEY CONTROL DETAILS

ALL BEARINGS ARE GRID
BASED ON GPS PTS 380004, 380009, 380010
ALL DISTANCES ARE GROUND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

100 0 100 200
SCALE: 1" = 200'

A5

PI = 170+30.86
Δ = 25°19'53" LT
D = 2°30'00"
R = 2291.83'
T = 515.04'
L = 1013.25'
PC = 165+15.82
PT = 175+29.07
e = 0.067'/'
Ls = 540'
ROTATE S.E. AROUND CL

EXIST US 63
PN:905
N 41°06'42" W
941.41'
PN:37
160+00
N 43°09'26" W
1089.30'
165+00
S 40°38'38" E
8006
℄ CONSTRUCTION US 63
A5
170+00
PN:904
PI 170+30.86
PN:36
N 63°07'38" W
843.27'
175+00
8007
S 65°58'31" E
PN:36
180+00
PN:903
S 65°58'31" E
8008
N 65°55'19" W
877.12'
PN:34
END JOB 100687
US 63
STA 175+80.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	70	252
				(2)	PLAN STA 115+00 TO STA 127+00			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
09-25-12

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
123+05	123+80	LT	4'	38.67

STA. 124+90 IN PLACE
18" x 52' PIPE CULVERT
REMOVE AND INSTALL
18" x 74' PIPE CULVERT LT SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC.
& 90 CU. YDS. COMP'D EMB.

STA. 126+08 IN PLACE
18" x 29' PIPE CULVERT
REMOVE AND INSTALL
18" x 52' PIPE CULVERT LT SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.
& 40 CU. YDS. COMP'D EMB.

STA. 127+08 INSTALL
18" x 70' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.
& 80 CU. YDS. COMP'D EMB.

STA. 121+32.43
BEGIN JOB 100687

EXIST US 63

PI 115+42.67
PI 118+71.62
PCC 121+32.43
PCC 116+07.16
PCC 114+18.18
115+00
120+00
125+00

S 84°12'01" E
S 67°44'06" E
S 40°38'38" E

STA. 120+80.00
140.00'
STA. 121+35.00
195.00'
STA. 122+09.24
-149.71'
STA. 119+00.94
100.20'
STA. 122+94.33
-128.56'
STA. 123+30.00
140.00'
STA. 124+50.00
115.00'
STA. 123+60.00
95.00'
STA. 124+50.00
BL/O'
STA. 124+53.74
-114.86'
STA. 124+77.02
-114.26'
STA. 124+78.84
-77.95'
STA. 125+04.21
-75.70'
STA. 125+50.00
115.00'
STA. 125+80.00
71.81'
STA. 126+49.67
-108.28'
STA. 122+63.33
97.16'
STA. 122+66.96
197.10'

EXIST. R/W
PROP. R/W
CONST. LIMITS
T.C.E.
CONCRETE DRIVEWAY
166'
40'
72'
50'
20'
8'
24'
11'
5.5'
12'

STA. 119+07.43
BEGIN TRANSITION PAVEMENT

STA. 121+32.43
END TRANSITION PAVEMENT
BEGIN NEW PAVEMENT

STA. 119+10 IN PLACE
48" x 176' RC PIPE CULVERT
RETAIN
PERFORM CULVERT CLEAN OUT

STA. 122+30 IN PLACE
36" x 40' CM PIPE CULVERT
REMOVE AND INSTALL
36" x 72' PIPE CULVERT RT SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC.
& 0 CU. YDS. COMP'D EMB.

MATCH LINE STA 127+00

℄ US 63

A3

PI = 118+71.62
Δ = 16°27'55" RT
D = 3°08'05"
R = 1827.85'
T = 264.46'
L = 525.28'
PCC = 116+07.16
PCC = 121+32.43
ROTATE S.E. AROUND CL
(TRANSITION TO EXISTING)

A4

PI = 124+77.52
Δ = 27°05'28" RT
D = 4°00'00"
R = 1432.39'
T = 345.09'
L = 677.28'
PCC = 121+32.43
PT = 128+09.71
e = 0.093'/'
Ls = 630'
ROTATE S.E. AROUND CL

NOTE:

ALL DRIVEWAYS SHALL BE ASPHALT PAVEMENT UNLESS NOTED OTHERWISE.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	71	252
				(2)	PROFILE STA 115+00 TO STA 127+00			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHID AR AHMAD
08-27-2012

STA. 119+07.43 MATCH EXIST. SUPERELEVATION
STA. 121+32.43 MAX SUPERELEVATION (0.093'/')
STA. 126+52.21 MAX SUPERELEVATION (0.093'/')
STA. 132+82.21 END SUPERELEVATION (N.C.)

BEGIN PROFILE
STA. 121+32.43

297.54
121+32.43

290.10
119+07.43

EXIST. US 63

EXISTING GROUND

225'
TRANSITION PAVEMENT

PROFILE GRADE

3.50%

-2.35%

-6.44%

+15 LT. D.G. 259.60
+32 LT. D.G. 259.19
+44 LT. D.G. 258.40

18.79'

+04 LT. D.G. 287.78

7.91'

+80 LT. D.G. 301.90

3.10%

+47 LT. D.G. 307.07

2.28%

+00 LT. D.G. 308.83

1.98%

460' VC
K = 153

+50 LT. D.G. 309.97

125+70.00

312.86
311.13

1.64%

+00 LT. D.G. 310.96

0.90%

+50 LT. D.G. 311.78

0.50%

+00 LT. D.G. 312.23

350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200

115+00 120+00 125+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	72	252
				(2)	PLAN STA 127+00 TO STA 141+00			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SHAHRIAR AZAD
No. 13404
10-12-2012

10/12/2012 8:39:58 AM

STA. 11+66.19 CONSTRUCT APPROACH ON LT = 20 CU. YDS. UNCL. EXC. & 0 CU. YDS. COMP'D EMB.

STA. 12+25.00
END JOB 100687

STA. 131+85 INSTALL
18" x 80' PIPE CULVERT
LT SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC. & 0 CU. YDS. COMP'D EMB.

STA. 11+76.50 IN PLACE
12" x 44' CM PIPE CULVERT
REMOVE AND INSTALL
18" x 58' PIPE CULVERT RT SIDE DRAIN
CONSTRUCT APPROACH = 0 CU. YDS. UNCL. EXC. & 65 CU. YDS. COMP'D EMB.

STA. 12+67.50 IN PLACE
18" x 37' PIPE CULVERT
REMOVE AND INSTALL
18" x 46' PIPE CULVERT RT SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC. & 15 CU. YDS. COMP'D EMB.

STA. 130+06 LT IN PLACE
12" x 53' CM PIPE CULVERT
REMOVE

STA. 130+34 CONSTRUCT APPROACH ON LT = 20 CU. YDS. UNCL. EXC. & 40 CU. YDS. COMP'D EMB.

BI
PI = 12+44.01
Δ = 6°06'52" RT
D = 7°00'00"
R = 818.51'
T = 43.72'
L = 87.35'
PC = 12+00.29
PT = 12+87.64
N.C.

	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POSTS (TYPE I)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 132+00.19 TO STA. 134+18.94 RT. =	150 LIN. FT.		1 EACH	1 EACH
STA. 133+25.19 TO STA. 134+18.94 LT. =	75 LIN. FT.	1 EACH		1 EACH

REMOVAL AND DISPOSAL OF GUARDRAIL

STA.	STA.	SIDE	UNIT
132+51	134+25	LT	175 LIN. FT.
132+50	134+25	RT	175 LIN. FT.
160+33	162+32	LT	199 LIN. FT.
160+31	162+33	RT	203 LIN. FT.

BLACK RIVER BRIDGE
STA. 134+25.91 - STA. 160+32.42 - IN PLACE
2608'-00" 21-SPAN STEEL BEAM, 12-SPAN DECK TRUSS, 2-SPAN CONC. WITH CONC. DECK SUPERSTR. WITH CONC. COLUMNS ON PILE AND SPREAD FOUND.
BRIDGE NO. 02112
26'-0" CLEAR ROADWAY
REMOVE AS EXISTING BRIDGE STRUCTURE - 1.00 LUMP SUM

DR07
(SEE SPECIAL DETAILS FOR ADDITIONAL INFORMATION)

STA. 131+50 INSTALL
18" x 64' PIPE CULVERT
RT SIDE DRAIN
CONSTRUCT APPROACH = 745 CU. YDS. UNCL. EXC.
& 0 CU. YDS. COMP'D EMB.

NOTE:
ALL DRIVEWAYS SHALL BE ASPHALT PAVEMENT UNLESS NOTED OTHERWISE.

MUSSEL BED
(APPROXIMATE STATIONS AND OFFSETS ARE SHOWN ON SHEET 78)

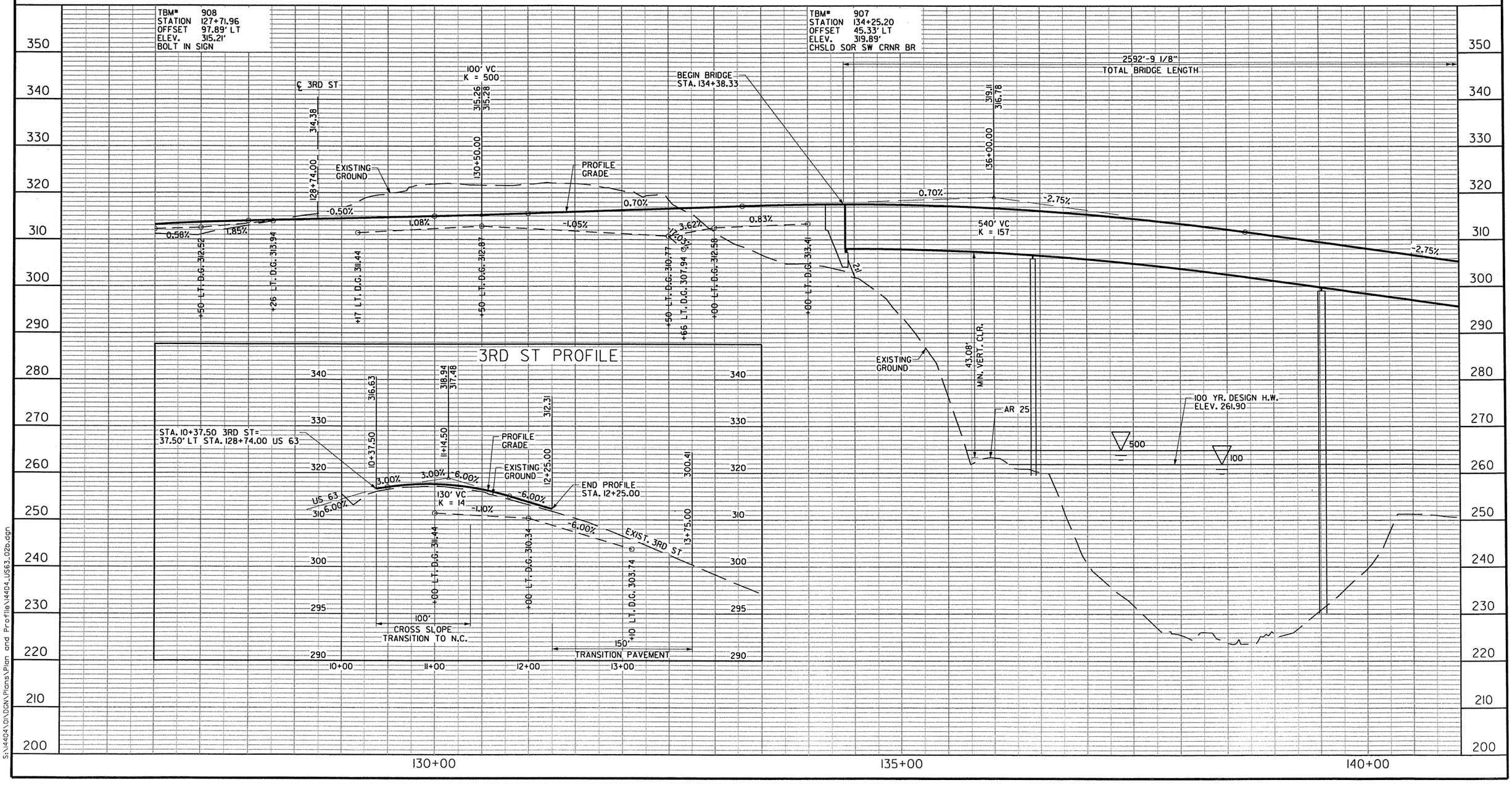
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				6	ARK.			
				JOB NO.		100687	73	252

(2) **PROFILE STA 127+00 TO STA 141+00**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
08-27-2012

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A 5 CFS STREAM. THE STREAM BANK ELEVATIONS ARE 260.06 AND 251.27 FEET MSL BETWEEN STATIONS 136+56.90 AND 140+32.91. REFER TO SECTION 110.06(C) OF THE 2003 STANDARD SPECIFICATIONS.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	74	252

(2) PLAN/PROFILE STA 141+00 TO STA 156+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
STEPHRIAN AZAR
08-27-2012

STA. 152+51 LT IN PLACE
18" x 88' CM PIPE CULVERT
RETAIN
PERFORM CULVERT CLEAN OUT

MATCH LINE STA 141+00

MATCH LINE STA 156+00

EXIST. R/W

CONST. LIMITS

EXIST US 63

8'
24'
11'
5.5'
24'
5.5'
8'

145+00

S 40°38'38" E

EXIST. R/W

150+00

155+00

CONST. LIMITS

PROP. R/W

℄ US 63

2592'-9 1/8"
TOTAL BRIDGE LENGTH

-2.75%

PROFILE GRADE

500

100

600' VC
K = 245

-2.75%

-0.30%

153+10.00
272.08
273.92

EXISTING GROUND

100 YR. DESIGN H.W.
ELEV. 261.90

310
300
290
280
270
260
250
240

145+00

150+00

155+00

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	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POSTS (TYPE I)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 160+40.49 TO STA. 162+59.24 LT. =	150 LIN. FT.		1 EACH	1 EACH
STA. 160+40.49 TO STA. 161+34.24 RT. =	75 LIN. FT.	1 EACH		

NOTES:

1. ALL DRIVEWAYS SHALL BE ASPHALT PAVEMENT UNLESS NOTED OTHERWISE.
2. RUMBLE STRIPS SHALL BE CONSTRUCTED ON US 63 SHOULDERS ON EAST SIDE OF BLACK RIVER BRIDGE PER THE DETAILS PROVIDED IN THE SPECIAL DETAIL SHEETS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNAR ARAD
08-27-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	75	252

(2) PLAN/PROFILE STA 156+00 TO STA 171+00

MATCH LINE STA 156+00

EXIST. R/W
CONST. LIMITS
PROP. R/W
S 40°38'38" E
8'
24'
11'
5.5'
STA. 159+43.15 121.23'
STA. 159+43.15 131.23'
STA. 160+55.00 131.19'
STA. 161+00.00 131.17'
STA. 160+55.00 39.50'
PROP. FENCE
EXIST. R/W & PROP. FENCE
STA. 160+31.09 END BRIDGE
PM 905
160+00
STA. 160+55.00 110.46'
PROP. R/W & FENCE
STA. 161+00.00 110.64'
FLOOD HAZARD BOUNDARY
EXIST US 63
℄ US 63
STA. 165+29.85 130.97'
STA. 165+29.92 140.97'
STA. 166+89.00 134.81'
165+00
PC STA. 163+00.00 80.00'
℄ DR08
STA. 163+00.00
PC 165+15.82
R 35'
R 50'
8'
16'
T.C.E.
CONST. LIMITS
PC STA. 159+99.36 130.00'
PT STA. 162+50.00 130.00'
STA. 164+15.00 111.90'
STA. 159+40.00 70.00'
STA. 159+40.00 110.00'
STA. 159+40.00 180.00'
STA. 163+00.00 180.00'
PT STA. 159+64.77, 170.37' END AGGREGATE DRIVEWAY
STA. 161+50.00, 130.00' END ASPHALT DRIVEWAY
BEGIN AGGREGATE DRIVEWAY
STA. 166+90.00 120.00'
PM 904
170+00
A5
PI = 170+30.86
Δ = 25°19'53" LT
D = 2°30'00"
R = 2291.83'
T = 515.04'
L = 1013.25'
PC = 165+15.82
PT = 175+29.07
e = 0.067'/'
Ls = 540'
ROTATE S.E. AROUND CL
S 65°58'31" E
STA. 170+00.00 120.00'
PI 170+30.86
MATCH LINE STA 171+00

STA. 163+00 CONSTRUCT APPROACH ON RT = 0 CU. YDS.
UNCL. EXC. & 2695 CU. YDS. COMP'D EMB.

2592'-9 1/8" TOTAL BRIDGE LENGTH

TBM# 905
STATION 160+33.14
OFFSET 45.93' LT
ELEV. 267.99'
BOLT SE CRNR BR

PROFILE GRADE
END BRIDGE STA. 160+31.09
500
100
100 YR. DESIGN H.W. ELEV. 261.90
2.1%
EXISTING GROUND
-0.30%
150' VC K = 500
0.00%
267.60
168+00.00 267.66

STA. 161+10.82 BEGIN SUPERELEVATION (N.C.)
STA. 166+50.82 MAX SUPERELEVATION (0.067'/')
STA. 170+40.00 MAX SUPERELEVATION (0.067'/')
STA. 175+80.00 END SUPERELEVATION (N.C.)

TBM# 904
STATION 169+59.44
OFFSET 15.04' LT
ELEV. 265.01'
2"ALUM CAP4'X5/8"RBR

290 280 270 260 250 240 230 220

160+00 165+00 170+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	76	252

(2) PLAN/PROFILE STA 171+00 TO STA 183+00

NOTE:

RUMBLE STRIPS SHALL BE CONSTRUCTED ON US 63 SHOULDERS ON EAST SIDE OF BLACK RIVER BRIDGE PER THE DETAILS PROVIDED IN THE SPECIAL DETAIL SHEETS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13934
SHAHRIAR AZAD
08-27-2012

STA. 175+80.00
END JOB 100687
BEGIN JOB 100686

MATCH LINE STA 171+00

STA. 175+80.00
END NEW PAVEMENT
BEGIN TRANSITION PAVEMENT

STA. 175+37.33
101.87'

STA. 177+35.00
101.63'

STA. 177+85.00
101.57'

CONST. LIMITS

℄ US 63

FLOOD HAZARD BOUNDARY

EXIST. R/W

EXIST. R/W & PROP. FENCE

PROP. FENCE

STA. 177+85.00
38.87'

STA. 177+80.00
END TRANSITION PAVEMENT

EXIST US 63

FLOOD HAZARD BOUNDARY

8'
5.5'
5.5'
24'
24'
8'

175+00

180+00

PI
PN:903

S 65°58'31" E

A5

EXIST. GUARDRAIL TO REMAIN

PT
175+29.07'

PROP. R/W & FENCE

EXIST. R/W

EXIST. R/W

CONST. LIMITS

PROP. R/W

PROP. R/W

STA. 173+00.00
115.00'

STA. 177+34.96
119.45'

STA. 177+50.00
120.00'

STA. 177+85.00
48.43'

STA. 177+85.00
1.97'

TBM# 903
STATION 179+81.25
OFFSET 2.97' LT
ELEV. 266.77'
CHSLD SOR SE CRNR BR

END PROFILE
STA. 175+80.00

267.60

265.97

175+80.00

177+80.00

PROFILE GRADE

0.00%

EXIST. US 63

EXISTING GROUND

200' TRANSITION PAVEMENT

EXISTING GROUND

310
300
290
280
270
260
250
240

175+00

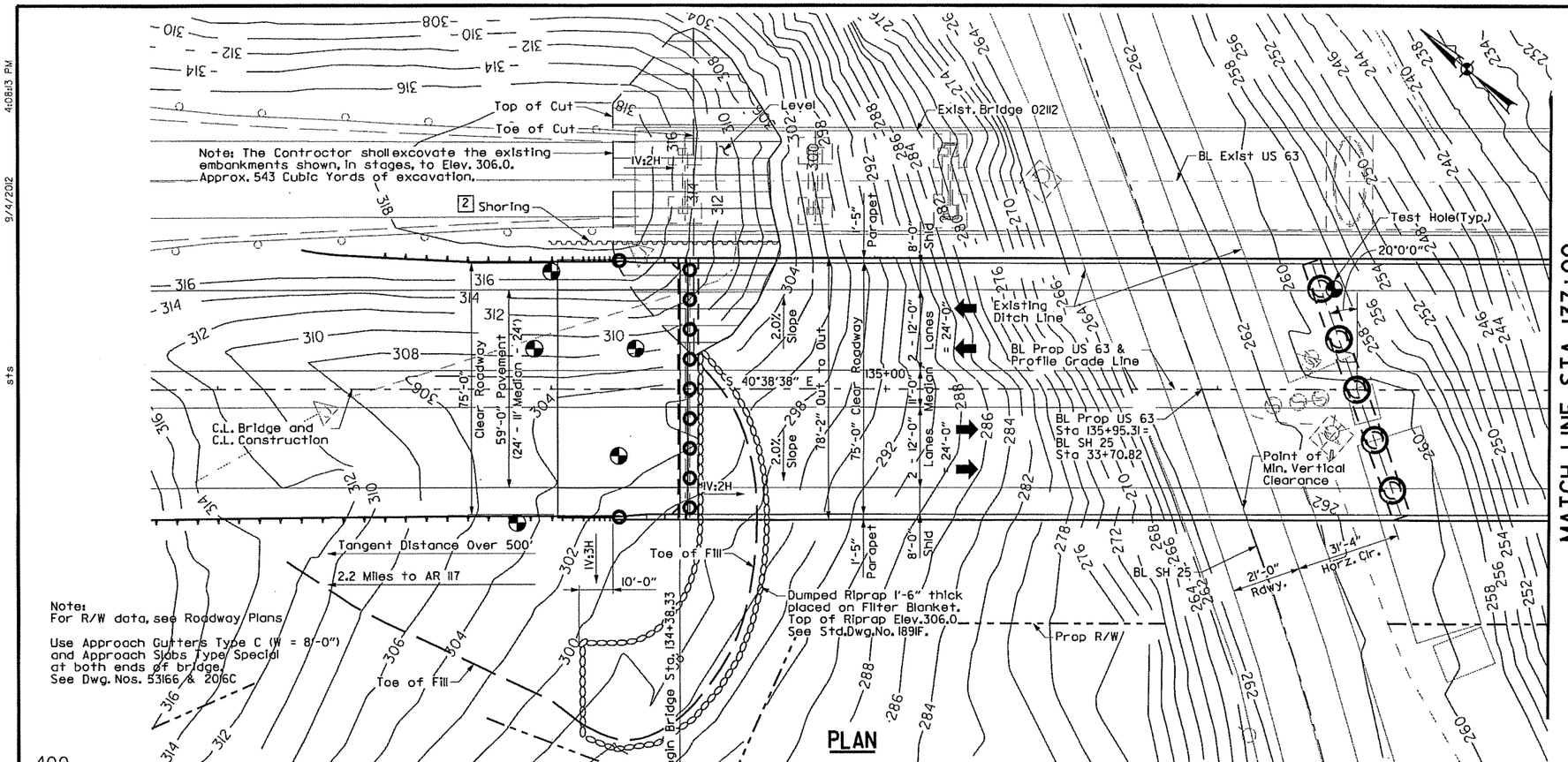
180+00

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				6	ARK.			
				JOB NO.		100687	77	252
				(1) 07263		Bridge Layout		53095

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



1 C.L.Bridge ⊗ C.L.Bent to Low Seat Top of Cap

2 Note: Shoring may be required during construction. Payment for this work, if required, shall be incidental to various bid items. See SP Job 100687 "Shoring".

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

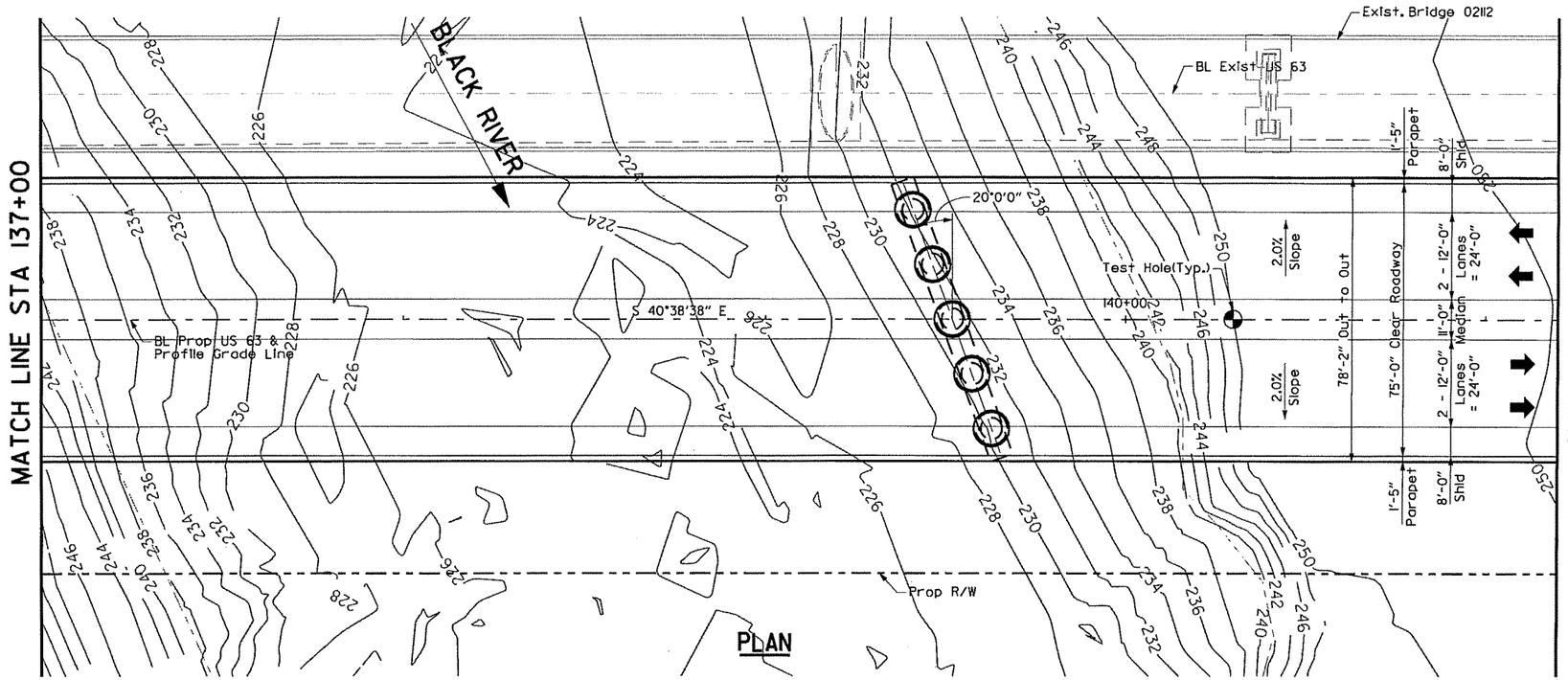
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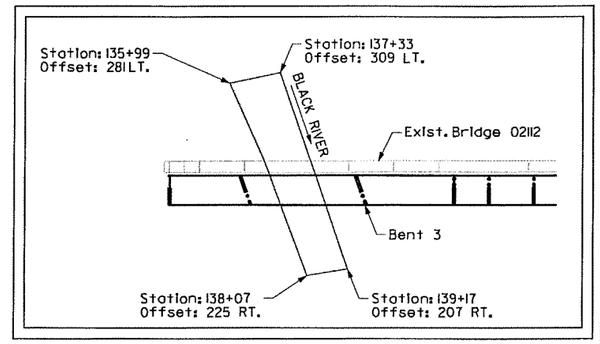
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				6	ARK.			
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				(1) 07263		Bridge Layout		53096

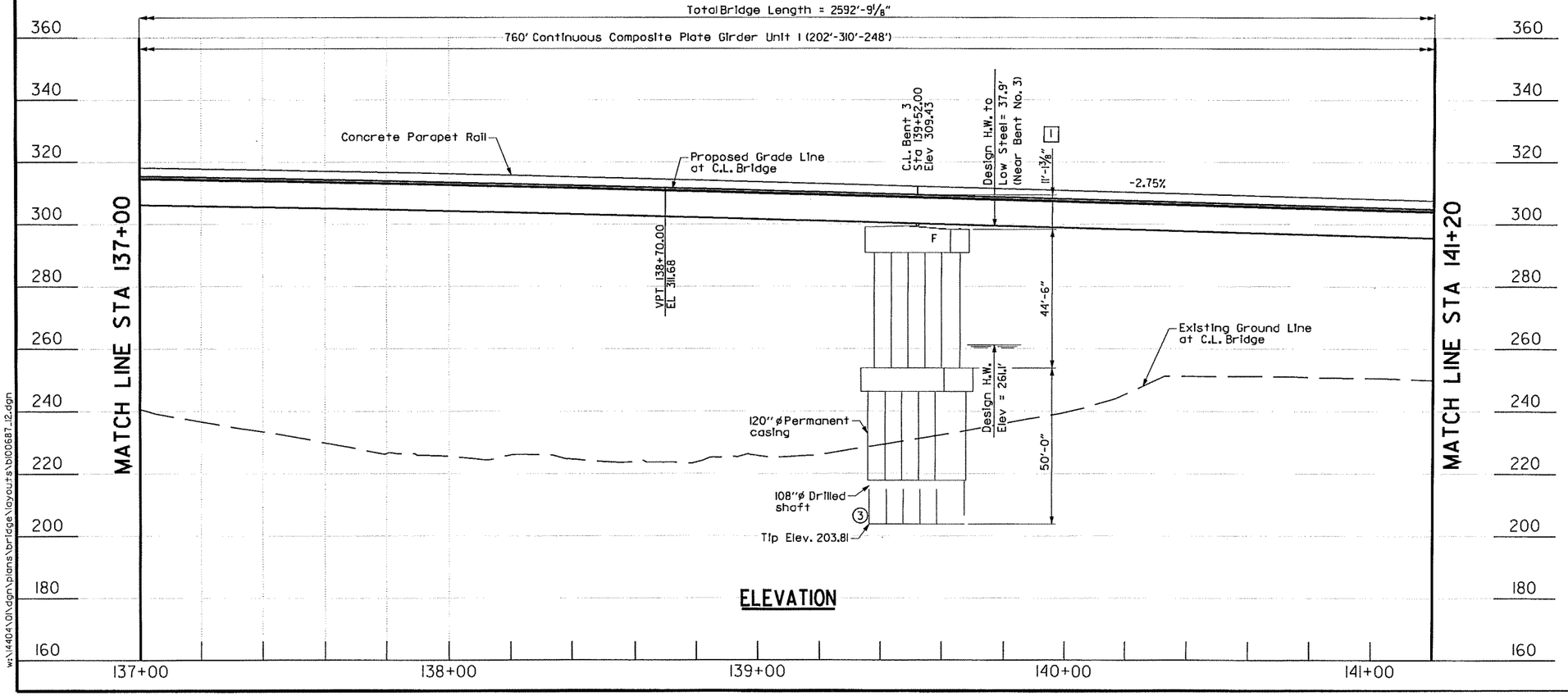




Approx. Location of Mussel Bed

See Special Provision Job 100687
"WATER POLLUTION CONTROL & RESTRAINING CONDITION"

STATE OF ARKANSAS
STEPHEN T. SMILEY
REGISTERED PROFESSIONAL ENGINEER
No. 13072
Stephen T. Smiley
4 Sept 2012



(1) C.L. Bridge ℄ C.L. Bent to Low Seat Top of Cap

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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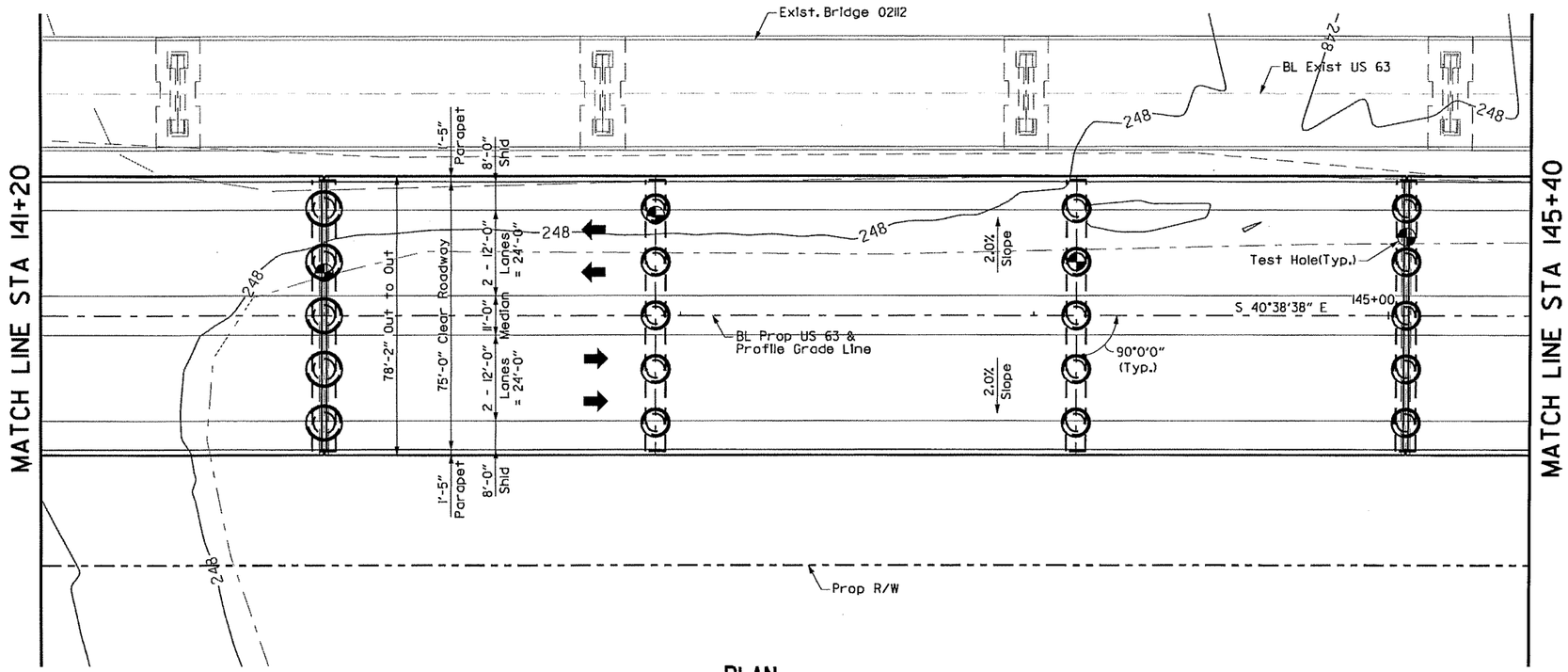
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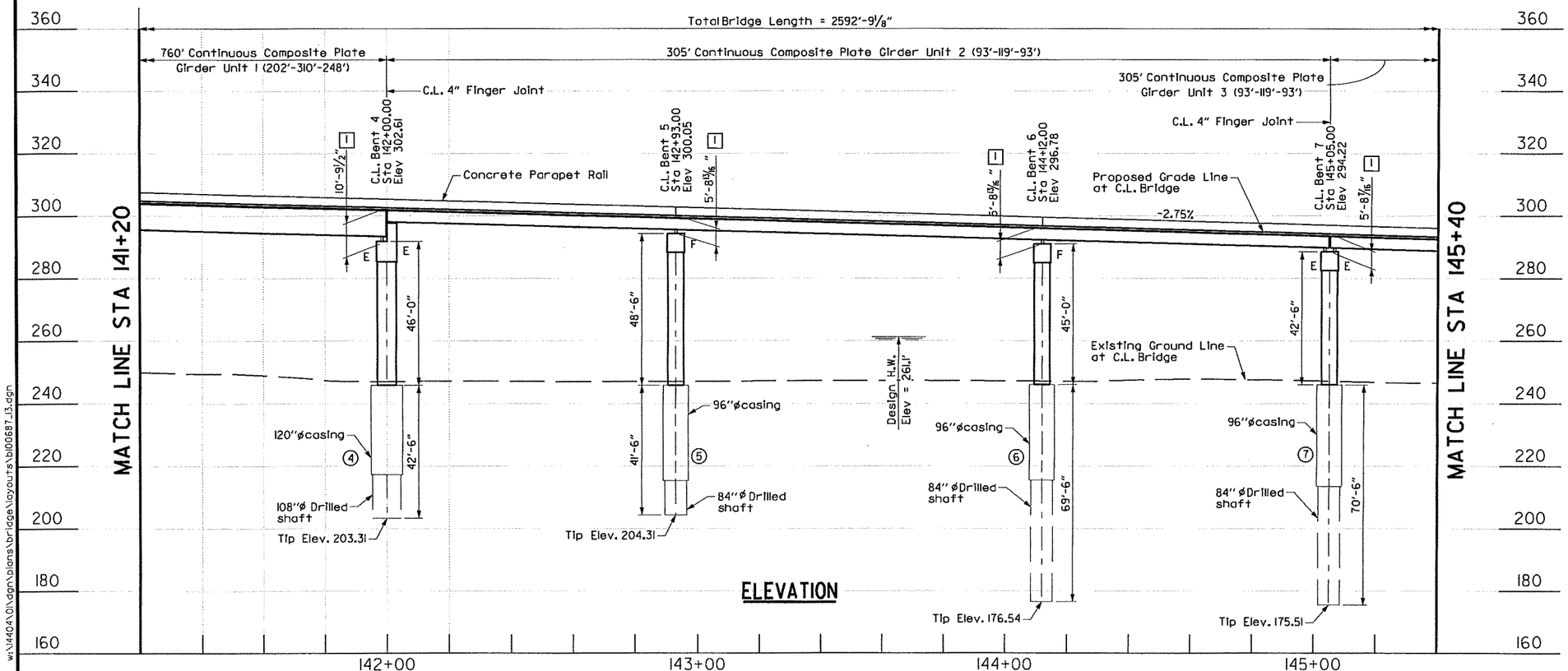
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				6	ARK.			
				JOB NO.		100687	79	252
				(1) 07263		Bridge Layout		53097

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012



PLAN



ELEVATION

[1] C.L.Bridge @ C.L.Bent to Low Seat Top of Cap

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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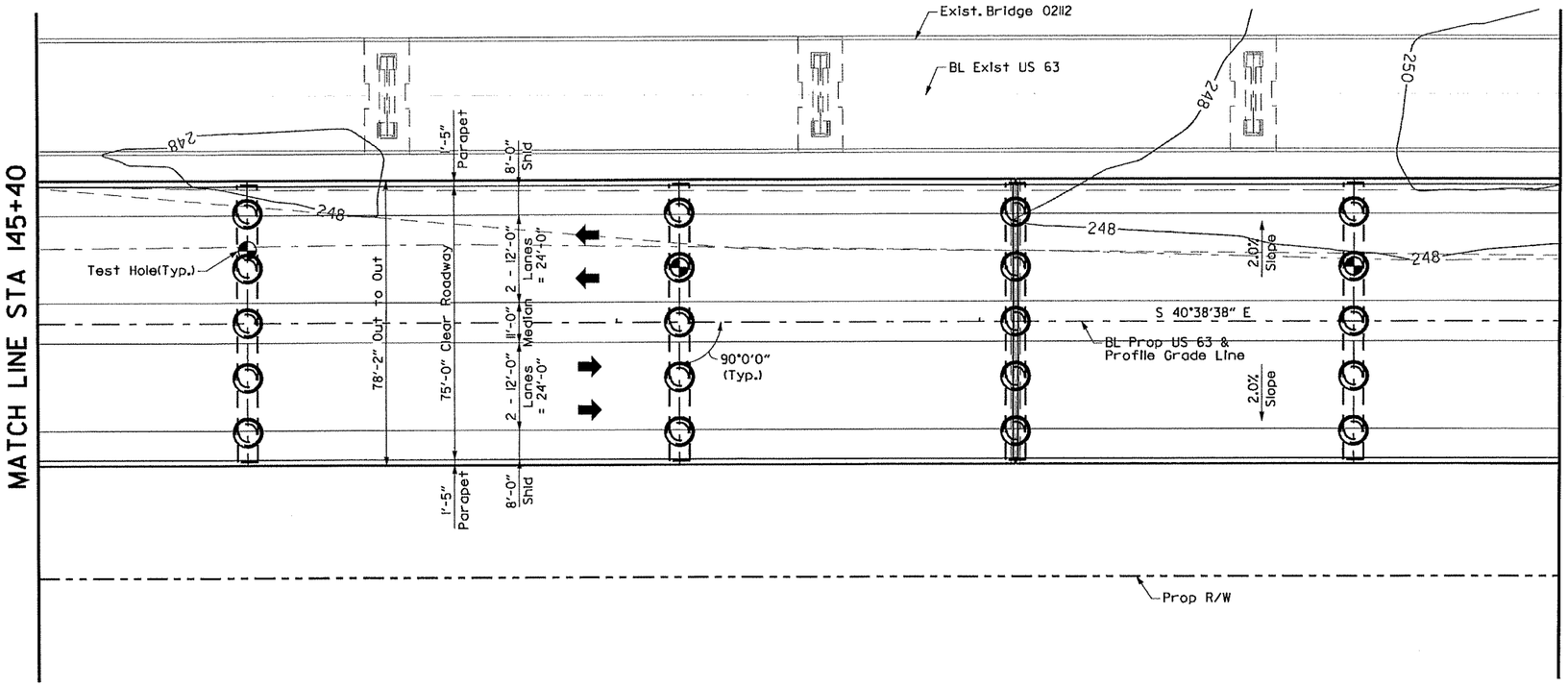
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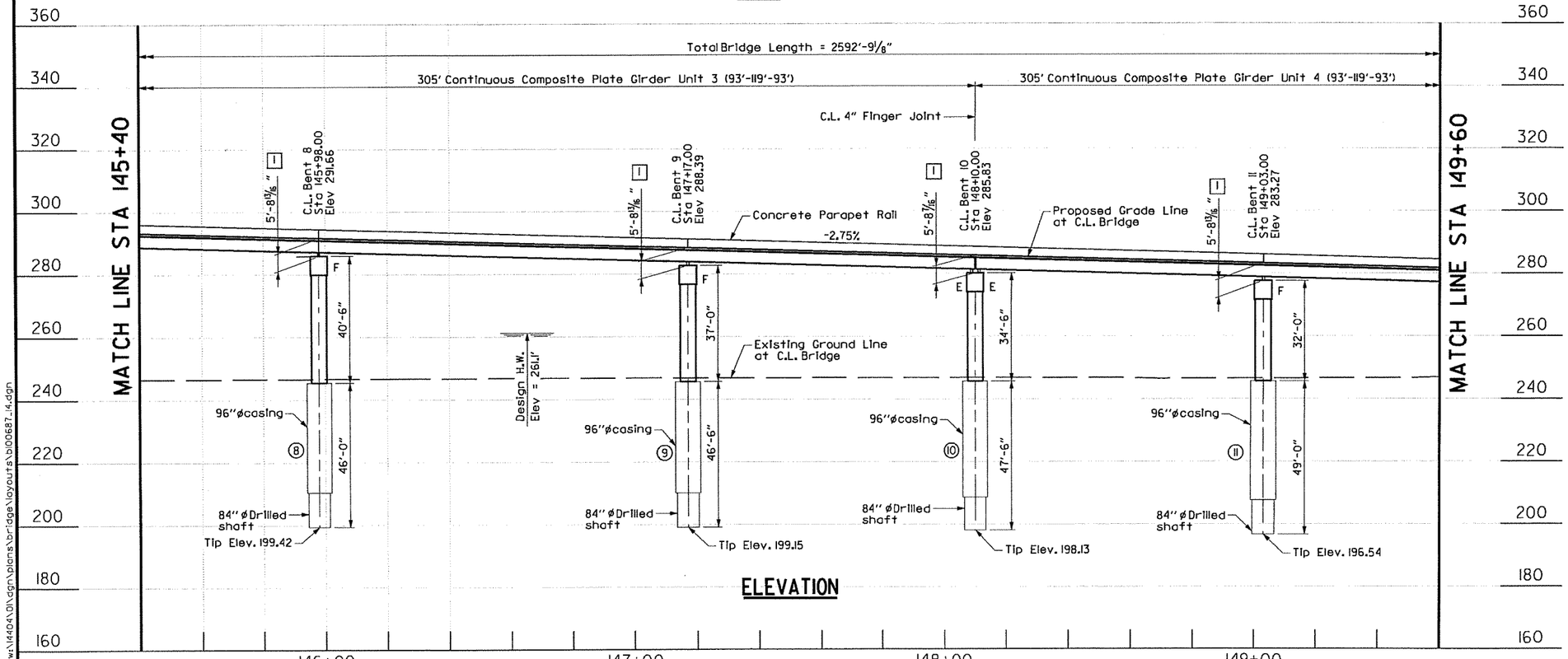
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				6	ARK.			
				JOB NO.		100687	80	252
				(1) 07263		Bridge Layout		53098

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley
4 Sept 2012



PLAN



ELEVATION

[1] C.L.Bridge @ C.L.Bent to Low Seat Top of Cap

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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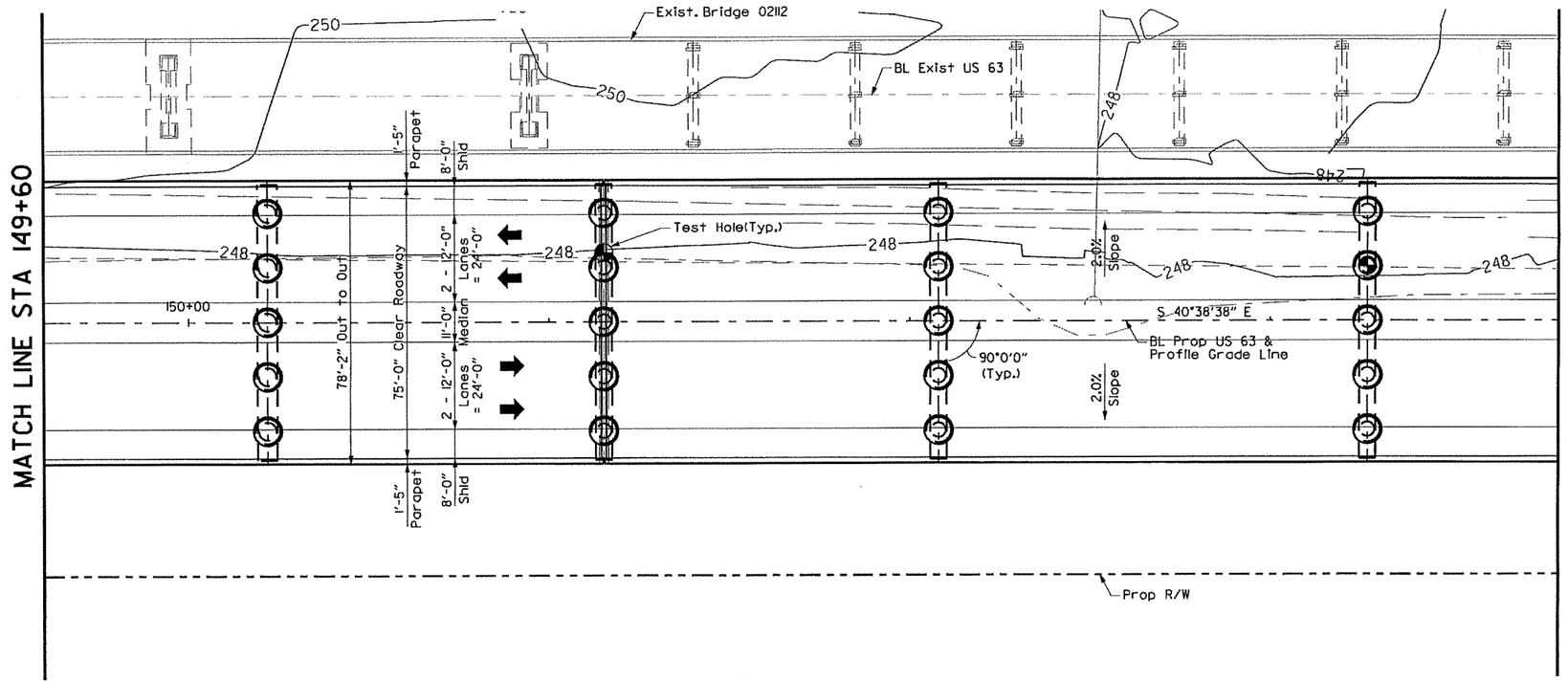
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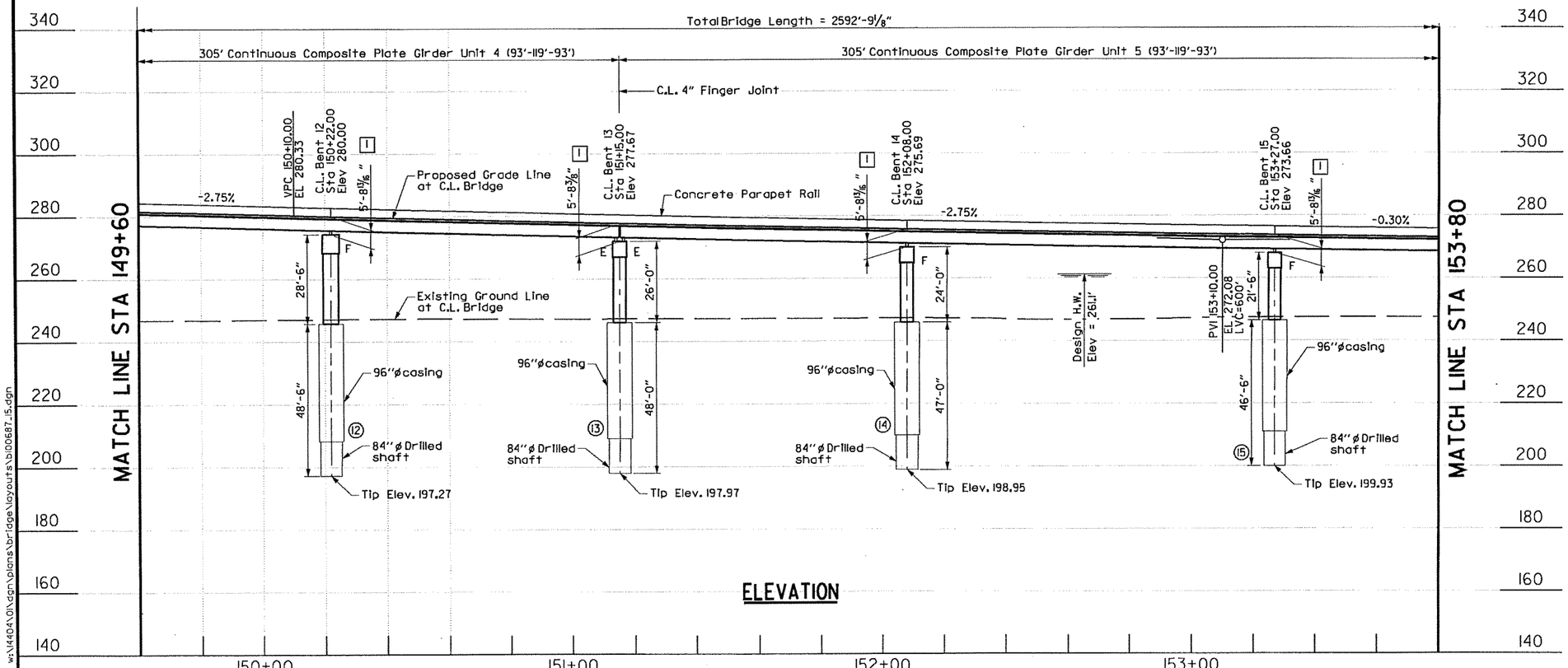
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				6	ARK.			
				JOB NO.		100687	81	252
				(1) 07263		Bridge Layout		53099

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012



PLAN



ELEVATION

[1] C.L.Bridge @ C.L.Bent to Low Seat Top of Cap

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 5 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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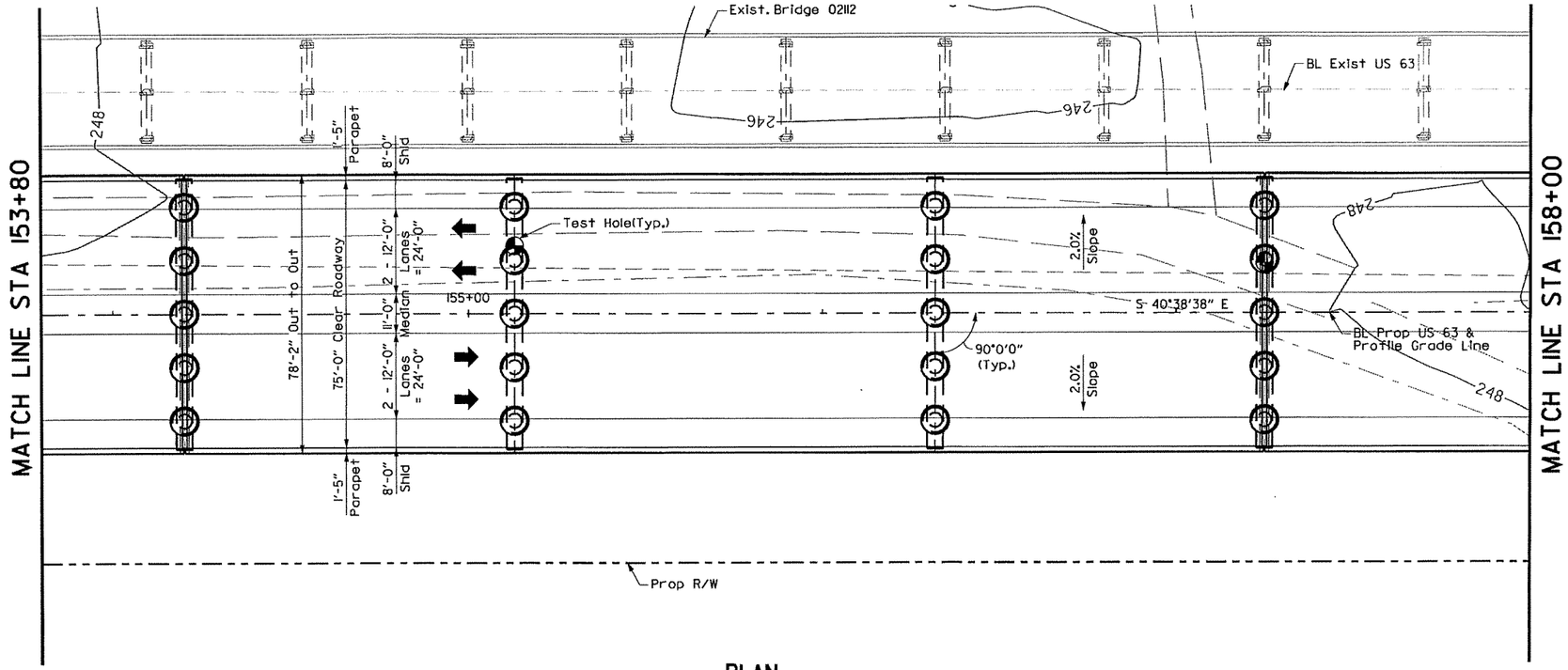
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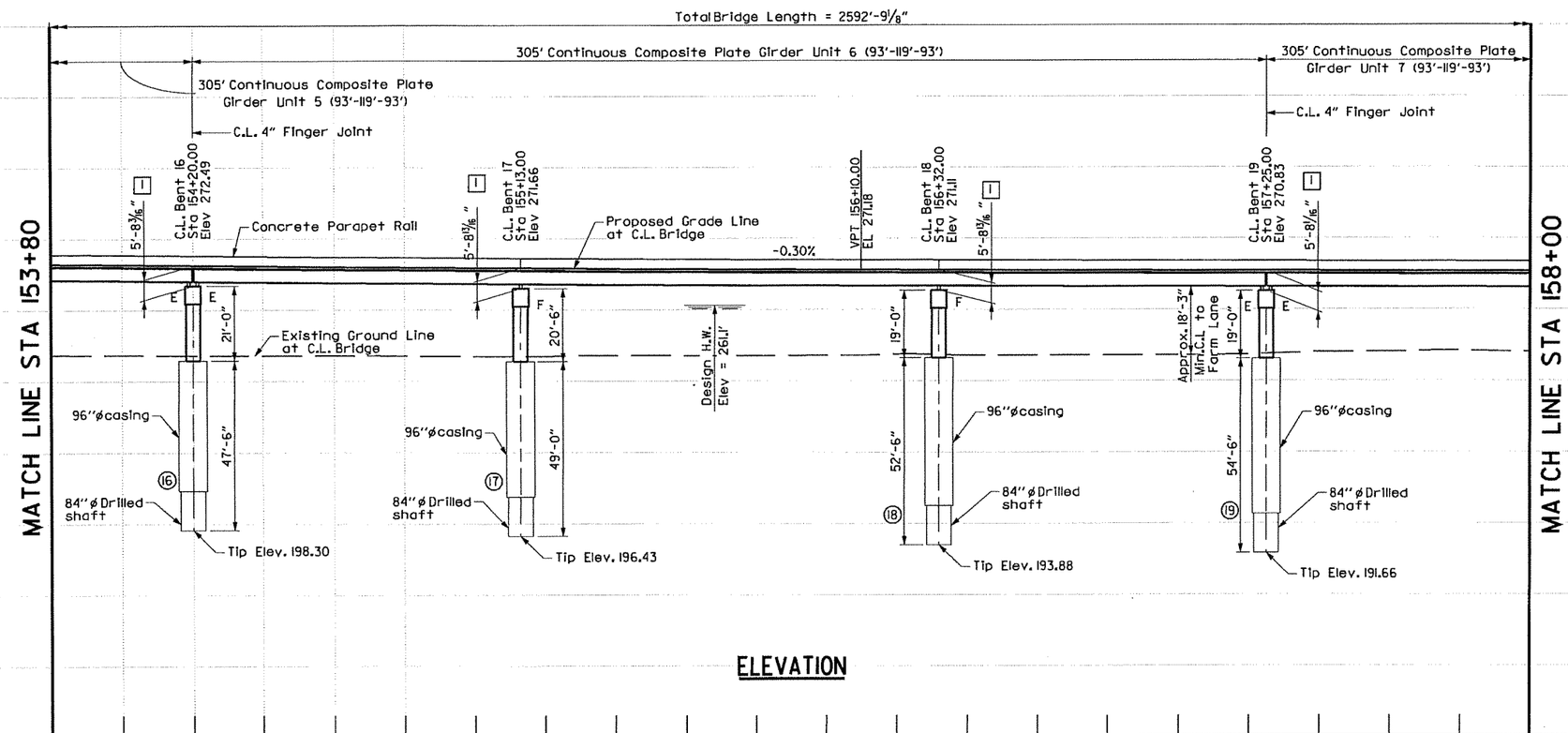
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				6	ARK.			
				JOB NO.		100687	82	252
				(1) 07263		Bridge Layout		53100

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



PLAN



ELEVATION

[1] C.L. Bridge & C.L. Bent to Low Seat Top of Cap

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 6 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

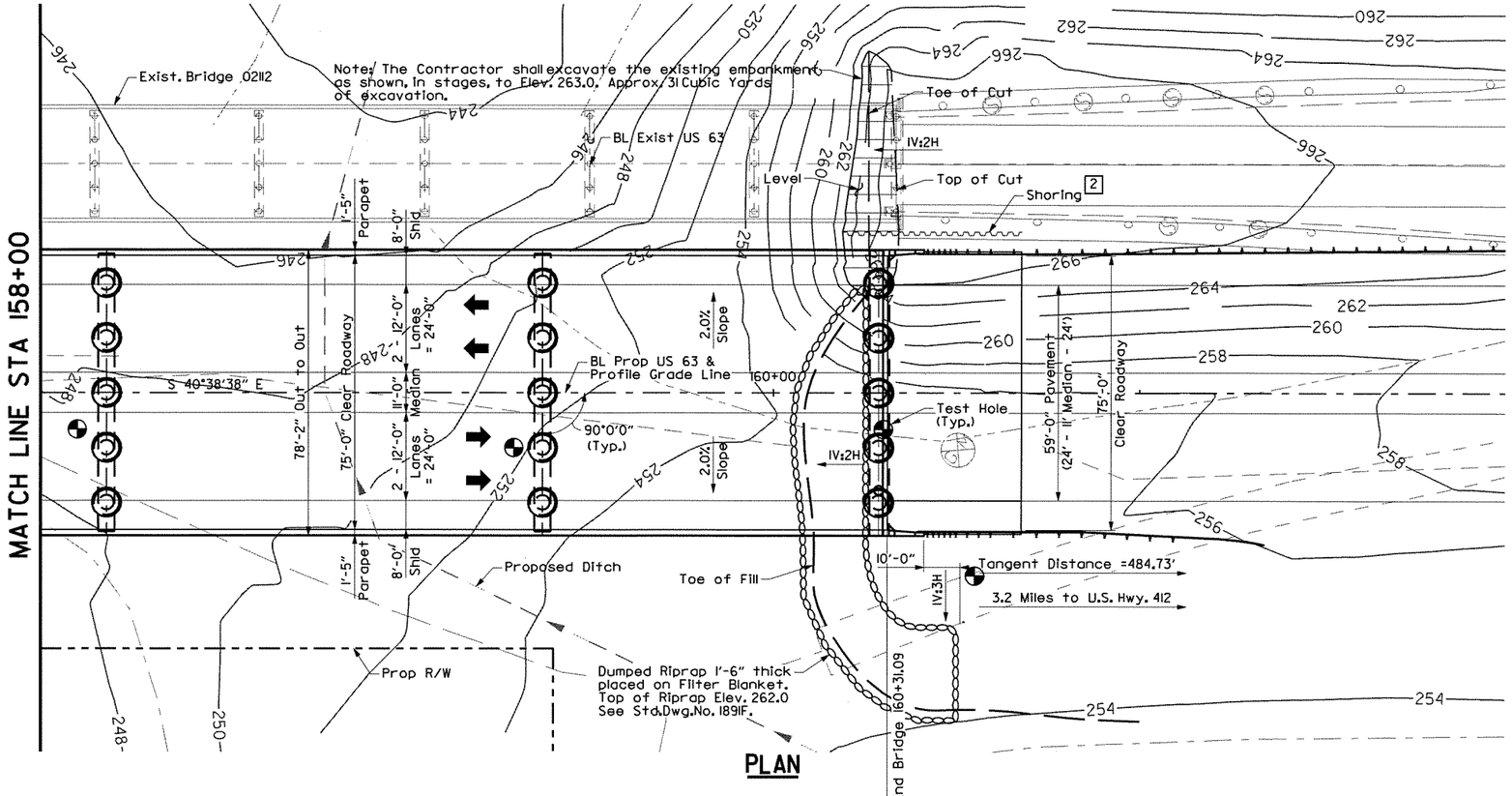
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BRIDGE NO. 07263 DRAWING NO. 53100

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				6	ARK.			
				JOB NO.		100687	83	252
				(1) 07263		Bridge Layout		53101

STATE OF ARKANSAS
STEPHEN T. SMILEY
REGISTERED PROFESSIONAL ENGINEER
No. 13072
6 Sept 2012



HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	* TOTAL DISCHARGE	DISCHARGE THIS SITE	**NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	50	164,000	137,360	261.1	261.1
Base	100	185,000	154,980	261.9	261.9
Extreme	500	280,000	258,520	264.9	264.9
Overtopping	> 500	-	-	-	-

* Discharge includes water through bridge opening and 2 relief bridges.

** Unconstricted water surface elevation without structure or roadway approaches

Drainage area=7,369 square miles.

Historical H.W. Elev.=N/A

[1] C.L.Bridge @ C.L.Bent to Low Seat Top of Cap

[2] Note: Shoring may be required during construction. Payment for this work, if required, shall be incidental to various bid items. See SP Job 100687 "Shoring".

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 7 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	AKH	DATE:	8/10/12	FILENAME:	b100687_17
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DESIGNED BY:	ST	DATE:	11/30/11		

BRIDGE NO. 07263 DRAWING NO. 53101

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GENERAL NOTES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	84	252
				(1) 07263		Bridge Layout		53102

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

LAYOUT

BENCH MARK: For bench mark information, see Survey Control Sheets

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2003 edition, with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010), with 2010 Interim revisions.

LIVE LOADING: HL-93

SEISMIC ZONE: 3

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel(AASHTO M 31 or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division upon request.

DRILLED SHAFTS: Foundations for bents, shall consist of Drilled Shafts. All drilled shafts shall be founded to the minimum rock penetrations and tip elevations as shown on the plans. No adjustments in Plan Tip Elevation shall be made without prior approval from the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job 100687 "Drilled Shaft Foundations". Any casing used as a means for construction of the drilled shafts, such as to prevent caving, to exclude ground water, or to provide shoring shall not extend below the top of rock. The Contractor must obtain approval from the Engineer for any deviation from this requirement.

CROSSHOLE SONIC LOGGING: Nondestructive testing shall be performed on specific drilled shafts in accordance with SP Job 100687 "Nondestructive Testing of Drilled Shafts".

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	53108-53111, 53133-53136
Intermediate Bents 2 - 21	53112-53132
760' Continuous Composite Plate Girder Unit	53137-53150
305' Continuous Composite Plate Girder Units	53151-53159
Finger Joints	53163-53164
Strip Seal Joint	53165
Elastomeric Bearings	53160-53162
Type Special Approach Slab	53166
Type C Approach Gutters	2016C

EXISTING BRIDGE : Existing Bridge No. 02112 is 32.3' wide and 2608.5' long. The superstructure consists of 2 Concrete girder approach spans, 21 steel I-Beam approach spans, and 12 deck truss spans. The substructure consists of concrete pile bents and reinforced concrete column bents with both spread and foundation pile footings. The existing bridge is located approximately 62.5' upstream (CL to CL) from the proposed new bridge.

REMOVAL & SALVAGE: After the new bridge if open to traffic, existing bridge No. 02112 shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor, with the exception of 25 of the 27" beams from the approach spans, 25 diaphrams, 400' of the 6" channel sections from the bridge railing, guard rail materials from the bridge approaches, and 25 cross braces from the approach truss which shall remain the property of AHTD District 10. The Contractor shall load the salvaged material onto AHTD District 10 Trucks.

SUPERSTRUCTURE

STRUCTURAL STEEL:
All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted. All structural steel shall be paid for as "Structural Steel In Plate Girder Spans (M270, Gr.50W)". Structural Steel completely embedded in concrete may be AASHTO M270.Gr.36. AASHTO M270.Gr.50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e) unless noted otherwise.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Girders, including web and flange splice plates, are considered main load carrying member and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270.Gr.50W)".

Web, flange plates, and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Drawings show general features of design only. Shop drawings shall be made in accordance with subsection 807.04, submitted, and approval secured before fabrication is begun.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with the recommendations of the manufacturer.

All girders shall be blocked in their true position in the shop as specified in subsection 807.54 (b)(2). The camber, length of sections, distance between bearings, and opening of joints shall be measured with the girders in their true position and this information shall become part of the permanent record on this Job. The component parts shall be match marked in this assembly and those marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60 degrees F. A tolerance of 1/4" (plus or minus) allowed for camber.

Field connections shall be bolted with high-strength bolts. Bolts shall be 3/4"ø except as noted, and open holes shall be 15/16 "ø unless otherwise noted. Holes for 3/4"ø bolts may be 15/16 "ø if a washer is supplied for use under both the nut and the head of the bolt. Bolt spacing shall be 2 1/2" for 3/4"ø bolts unless noted otherwise. For field splices, bolts shall be 7/8"ø bolts. Open holes shall be 15/16 "ø. Bolt spacing shall be 3" for 7/8"ø bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder web and on the bottom of the girder flanges.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of subsection 802.13 will not require approval prior to construction. All welding shall conform to subsection 807.26.

Girder webs may be made by shop splicing with minimum lengths of 25' for sections. Flange plates longer thatn 50' may be made by shop splicing with minimum lenghts of 25' for sections. No additional payment for welds for these splices will be made.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the Contractor's expense.

Diaphragms shall be installed as girders are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck.

Bearings shall be seated in accordance with subsection 808.00. This work and material will not be paid for directly but will be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr.50W)".

REINFORCING STEEL:
The reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports, sufficient in size and number, to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

CONCRETE:
All concrete deck shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Dwg. No. 14991 for allowable modifications and for tolerances when permanent steel deck forms are used.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made to the strike-off to account for the future dead load deflection due to the parapet railing.

A minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

SUBSTRUCTURE

All concrete shall be Class S and shall be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted. Maximum aggregate size shall not exceed 1 1/4" within columns. For foundation concrete, see SP Job 100687 "Drilled Shaft Foundations".

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Top reinforcing bars in bent caps shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves. If anchor bolts are drilled into cap, top reinforcing bars shall be placed to avoid damage.

Drilled Shafts and columns at Bent No. 22 shall be constructed before embankment is constructed.

SPIRAL REINFORCING:
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M53 (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, additional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column (Maximum = 2). In no case shall a spiral be lapped within the top or bottom 1/4th of the column height.

Splices in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1 1/2 turns and a 135° hook with a 10" tail around a vertical bar.

END BENTS:
Structural Steel: Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

The backwall and wings shown above the required construction joint shall not be poured until the deck concrete for Pour (1) on the end span has been poured.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 8 OF 8
LAYOUT OF BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

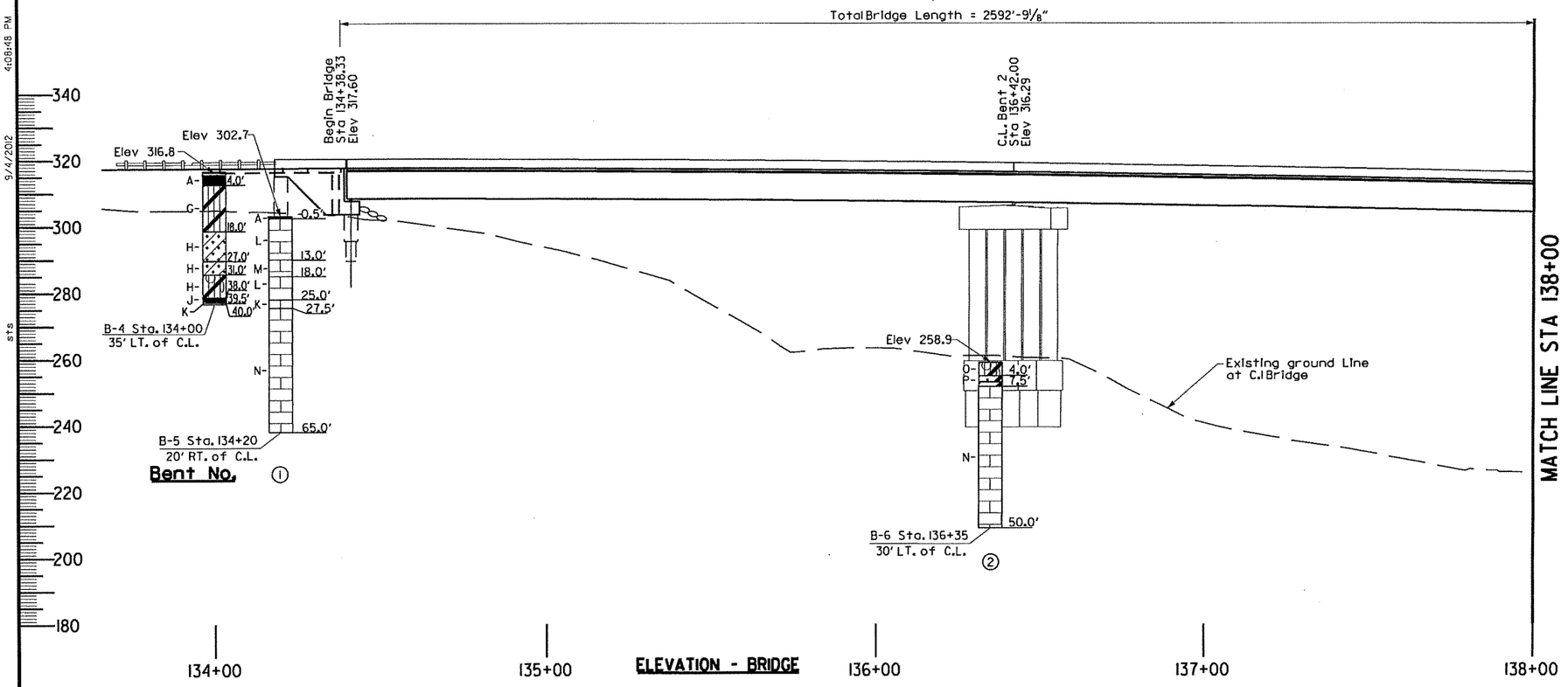
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BRIDGE NO. 07263 DRAWING NO. 53102

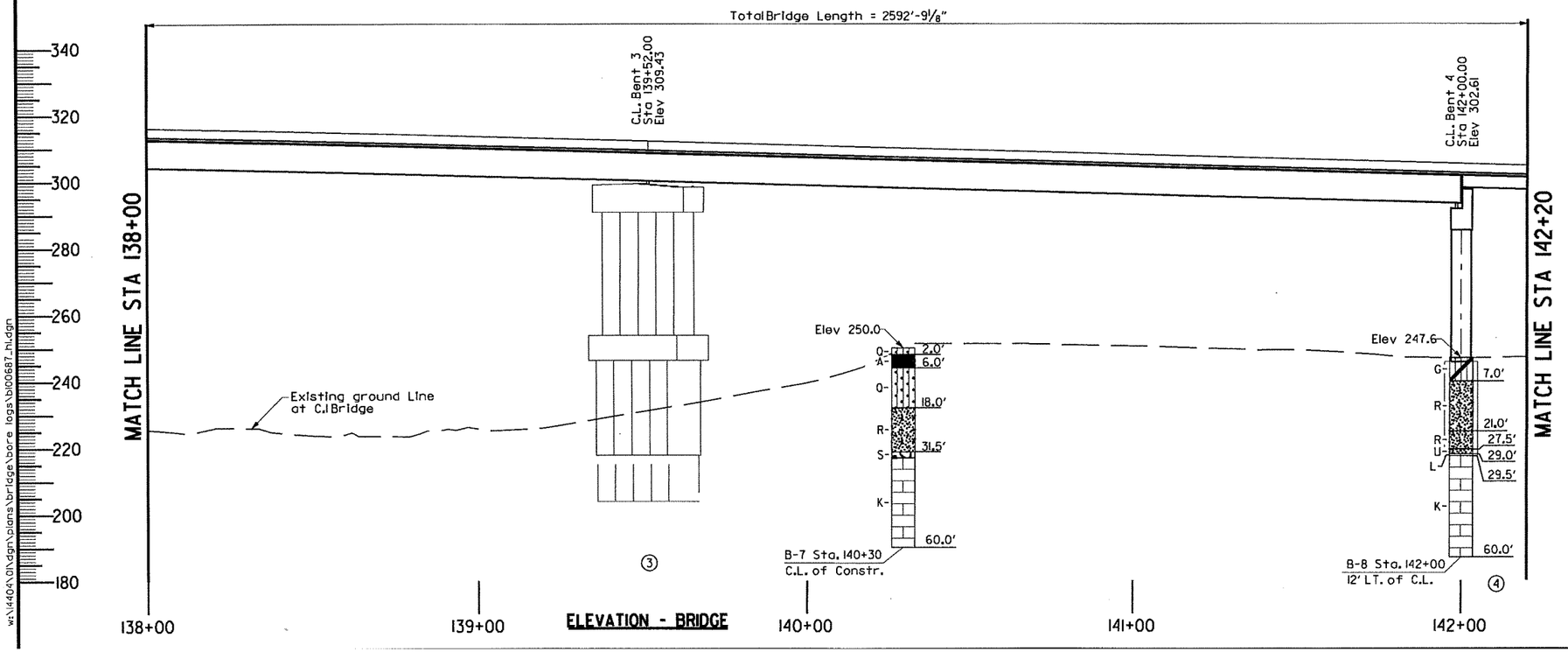
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	85	252
				① 07263		Soil Borings		53103



ELEVATION - BRIDGE



ELEVATION - BRIDGE

SUMMARY OF SPT N-VALUES

Sta. 134+00, 35' Lt (Boring 4)
1-2, N = 26
2.5-3.5, N = 8
4.5-5.5, N = 7
6.5-7.5, N = 8
9-10, N = 9
14-15, N = 12
19-20, N = 14
24-25, N = 30
29-30, N = 26
34-35, N = 32
38.5-39.5, N = 27
39.5-40, N = 50/0"

Sta. 134+20, 20' Rt (Boring 5)
0.5-1.5, N = 25/0"
2.5-3.5, N = 25/0"
4.5-5.5, N = 25/0"
6.5-7.5, N = 25/0"
9-10, N = 25/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"

Sta. 136+35, 30' Lt (Boring 6)
0.5-1.5, N = 17
2.5-3.5, N = 8
4.5-5.5, N = 25/0"
6.5-7, N = 16
7-7.5, N = 25/0"
9-10, N = 50/0"
24-25, N = 50/0"
29-30, N = 50/0"
34-35, N= 50/0"
39-40, N = 50/0"
44-45, N = 50/0"
49-50, N = 50/0"

Sta. 140+30, CL (Boring 7)
0.5-1.5, N = 8
2.5-3.5, N = 10
4.5-5.5, N = 16
6.5-7.5, N = 5
9-10, N = 6
14-15, N = 11
19-20, N = 12
24-25, N = 17
29-30, N = 31
34-35, N= 25/0"

Sta. 142+00, 12' Lt (Boring 8)
4-5, N = 4
9-10, N = 8
14-15, N = 10
19-20, N = 11
24-25, N = 13
28-29, N = 28
29-30, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 4
SOIL BORINGS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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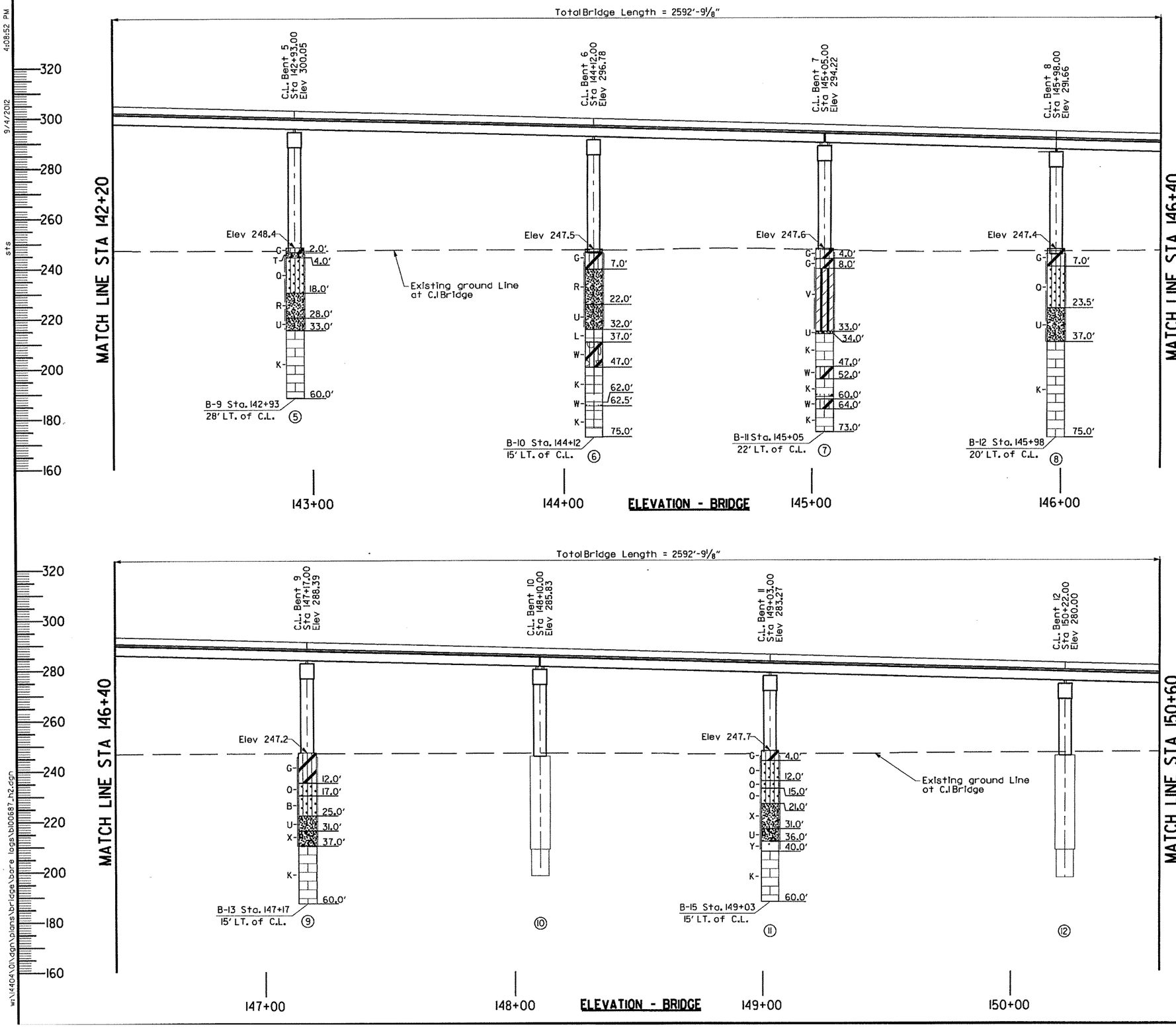
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	86	252
1 07263		Soil Borings		53104



ELEVATION - BRIDGE

ELEVATION - BRIDGE

SUMMARY OF SPT N-VALUES

Sta. 142+93, 28' Lt (Boring 9)
0.5-1.5, N = 10
2.5-3.5, N = 5
4.5-5.5, N = 7
6.5-7.5, N = 6
9-10, N = 12
14-15, N = 13
19-20, N = 16
24-25, N = 22
29-30, N = 27

Sta. 144+12, 15' Lt (Boring 10)
4-5, N = 7
9-10, N = 7
14-15, N = 14
19-20, N = 22
24-25, N = 24
29-30, N = 22
34-35, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"
69-70, N = 50/0"
74-75, N = 50/0"

Sta. 145+05, 22' Lt (Boring 11)
0.5-1.5, N = 14
2.5-3.5, N = 20
4.5-5.5, N = 10
6.5-7.5, N = 6
9-10, N = 6
14-15, N = 5
19-20, N = 5
24-25, N = 6
29-30, N = 8
33.5-34, N = 50/5"
34-35, N = 25/0"
39-40, N = 25/0"
44-45, N = 25/0"
52.5-53.5, N = 25/0"
59-60, N = 25/0"
64-65, N = 25/0"
69-70, N = 25/0"

Sta. 145+98, 20' Lt (Boring 12)
4-5, N = 11
9-10, N = 4
14-15, N = 5
19-20, N = 14
24-25, N = 19
29-30, N = 20
34-35, N = 38
39-40, N = 50/0"
44-45, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"
69-70, N = 50/0"
74-75, N = 50/0"

Sta. 147+17, 15' Lt (Boring 13)
0.5-1.5, N = 7
2.5-3.5, N = 20
4.5-5.5, N = 8
6.5-7.5, N = 11
9-10, N = 6
14-15, N = 5
19-20, N = 29
24-25, N = 22
29-30, N = 42
34-35, N = 44
39-40, N = 25/0"
44-45, N = 25/0"
49-50, N = 25/0"
54-55, N = 25/0"
59-60, N = 25/0"

Sta. 149+03, 15' Lt (Boring 15)
0.5-1.5, N = 8
2.5-3.5, N = 7
4.5-5.5, N = 4
6.5-7.5, N = 3
9-10, N = 4
14-15, N = 4
19-20, N = 3
24-25, N = 38
29-30, N = 46
34-35, N = 50/10"
39-40, N = 50/0"
44-45, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"

STATE OF ARKANSAS
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SHEET 2 OF 4
SOIL BORINGS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

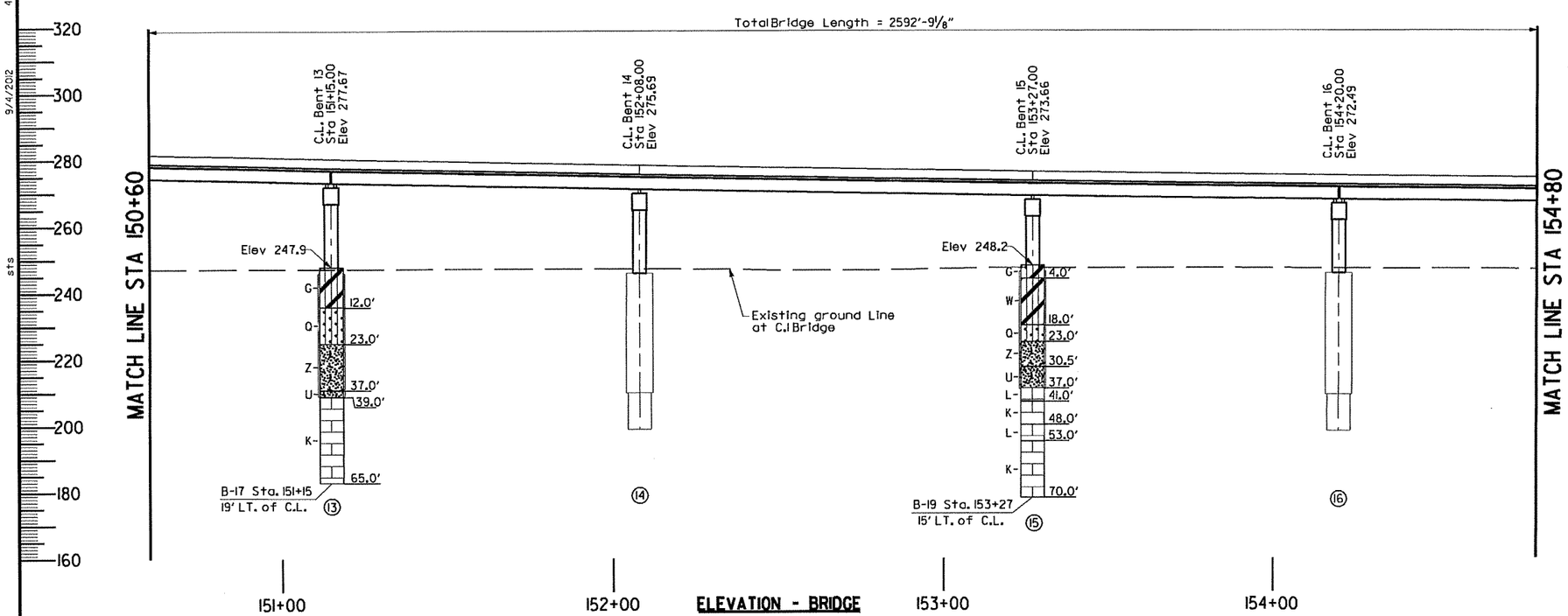
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	87	252
				(1) 07263		Soil Borings		53105



ELEVATION - BRIDGE

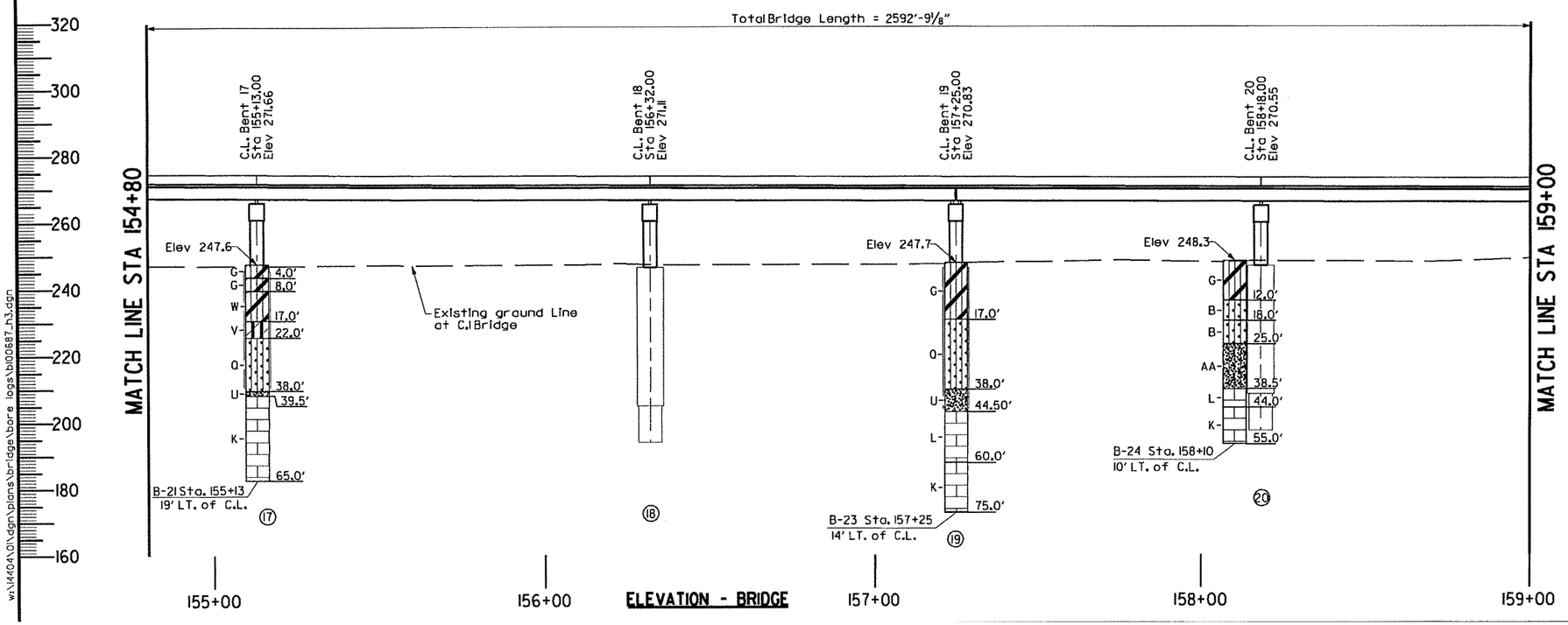
SUMMARY OF SPT N-VALUES

Sta. 151+15, 19' Lt (Boring 17)
0.5-1.5, N = 10
2.5-3.5, N = 13
4.5-5.5, N = 8
6.5-7.5, N = 7
9-10, N = 8
14-15, N = 10
19-20, N = 9
24-25, N = 19
29-30, N = 20
34-35, N = 17
38.5-39, N = 12
34-35, N = 50/0"
39-40, N = 50/0"
44-45, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"

Sta. 153+27, 15' Lt (Boring 19)
0.5-1.5, N = 8
2.5-3.5, N = 19
4.5-5.5, N = 16
6.5-7.5, N = 14
9-10, N = 4
14-15, N = 4
19-20, N = 7
24-25, N = 18
29-30, N = 19
34-35, N = 24
39-40, N = 50/0"
44-45, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"
69-70, N = 50/0"

Sta. 155+13, 19' Lt (Boring 21)
0.5-1.5, N = 8
2.5-3.5, N = 9
4.5-5.5, N = 10
6.5-7.5, N = 12
9-10, N = 4
14-15, N = 4
19-20, N = 4
24-25, N = 4
29-30, N = 8
34-35, N = 7
38.5-39.5, N = 30
44-45, N = 50/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"

Sta. 157+25, 14' Lt (Boring 23)
0.5-1.5, N = 10
2.5-3.5, N = 17
4.5-5.5, N = 9
6.5-7.5, N = 10
9-10, N = 7
14-15, N = 6
19-20, N = 5
24-25, N = 6
29-30, N = 8
34-35, N = 21
39-40, N = 32
44-44.5, N = 36
45-45.5, N = 25/0"
49-50, N = 50/0"
54-55, N = 50/0"
59-60, N = 50/0"
64-65, N = 50/0"
69-70, N = 50/0"
74-75, N = 50/0"



ELEVATION - BRIDGE

Sta. 158+10, 10' Lt (Boring 24)
0.5-1.5, N = 10
2.5-3.5, N = 9
4.5-5.5, N = 8
6.5-7.5, N = 4
9-10, N = 5
14-15, N = 24
19-20, N = 26
24-25, N = 11
29-30, N = 36
34-35, N = 53
38.5-39.5, N = 25/0"
43-44, N = 25/0"
49-50, N = 25/0"
54-55, N = 25/0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
Stephen T. Smiley 4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

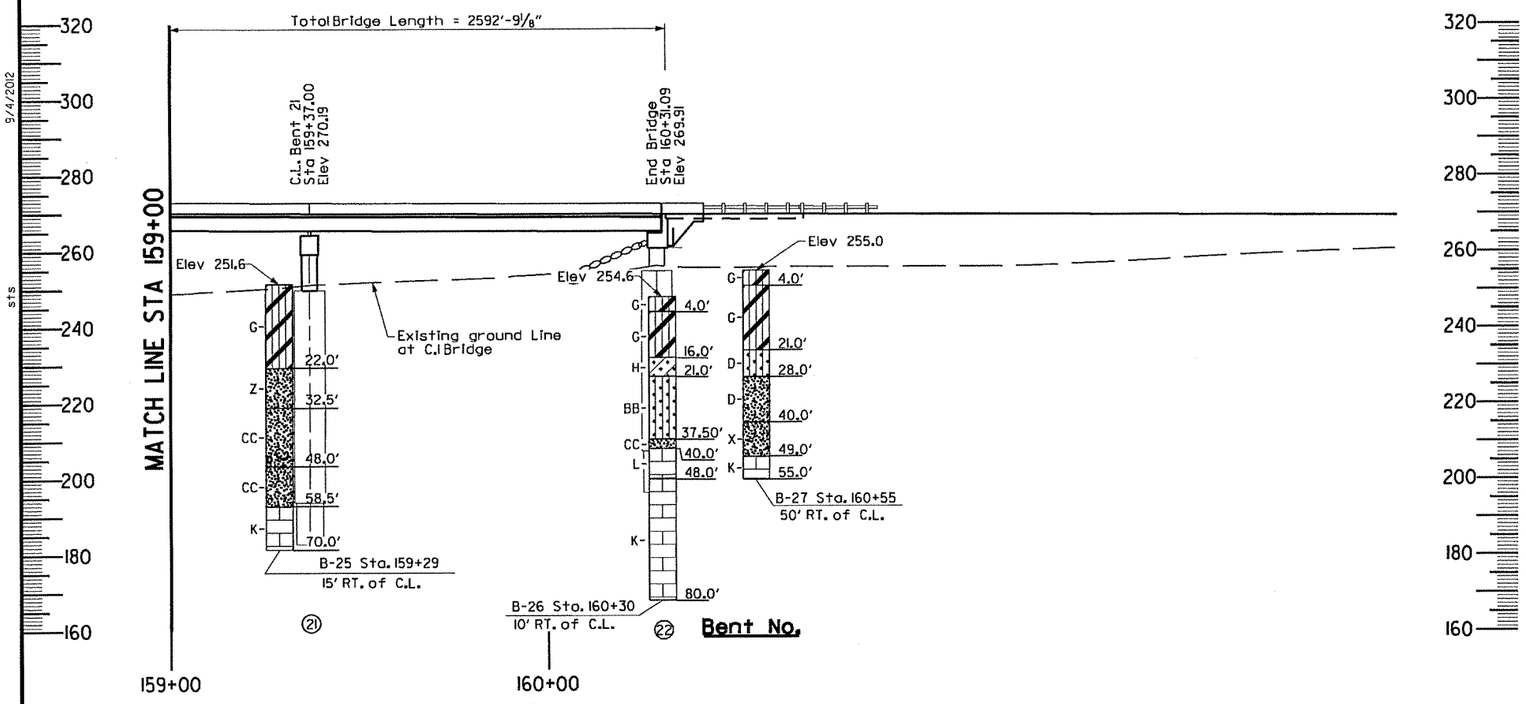
SHEET 3 OF 4
SOIL BORINGS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: AKH DATE: 8/10/12
CHECKED BY: STS DATE: 8/13/12
DESIGNED BY: ST DATE: 4/13/12
FILENAME: b100687.h3
SCALE: 1" = 20'

BRIDGE NO. 07263 DRAWING NO. 53105

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	88	252
				(1) 07263		Soil Borings		53106



ELEVATION - BRIDGE

BORING LEGEND:
A-Firm tan fine sandy clay
B-Medium dense reddish tan and brown silty fine sand
C-Stiff tan, gray, and yellowish red clay
D-Medium dense to very dense brownish yellow silty fine sand
E-Medium dense brown silty fine sand and crushed stone (fill)
F-Loose tan clayey fine sand, silty
G-Firm to stiff tan, grayish brown, and gray silty clay with fine sand pockets
H-Medium dense gray, reddish tan, and tan clayey fine sand
I-Very stiff yellowish tan, gray, and reddish tan silty clay with fine sand seams and pockets
J-Very stiff tan fine sandy clay
K-Hard gray dolomite
L-Hard tan, light tan, and gray weathered dolostone
M-Hard gray fossiliferous limestone
N-Hard gray limestone
O-Stiff dark brown silty clay with fine to coarse gravel (fill)
P-Stiff to hard brown clay
Q-Loose brown silty fine sand
R-Medium dense reddish tan fine sand, slightly silty
S-Dense brown fine to coarse gravel
T-Loose brown fine sandy silt
U-Medium dense grayish brown sandy fine to coarse grovel
V-Soft to firm brown clayey silt
W-Soft to firm brown silty clay
X-Dense tan fine to coarse sand with a little fine gravel
Y-Hard tan weathered medium-grained sandstone
Z-Medium dense gray fine to medium sand, slightly silty with a little fine gravel
AA-Dense gray silty fine sand with some fine gravel
BB-Dense brown and gray silty fine to medium sand
CC-Dense to very dense brown fine to medium sand
DD-Dense to very dense brownish gray fine sand, slightly silty
EE-Stiff reddish brown fine sandy clay, silty with fine sand pockets and a little fine gravel (fill)
FF-Stiff to very stiff tan fine sandy clay and clayey silt (fill)
GG-Loose dark gray, tan, and reddish tan clayey fine sand with clay pockets and layers (fill)

SUMMARY OF SPT N-VALUES

Sta. 159+29, 15' Rt (Boring 25)
24-25, N = 28
29-30, N = 29
34-35, N = 32
39-40, N = 34
44-45, N = 43
49-50, N = 50/8"
54-55, N = 50/10"
59-60, N = 50/0"
64-65, N = 50/0"
69-70, N = 50/0"

Sta. 160+30, 10' Rt (Boring 26)
0.5-1.5, N = 7
2.5-3.5, N = 7
4.5-5.5, N = 12
6.5-7.5, N = 14
9-10, N = 18
14-15, N = 16
19-20, N = 22
24-25, N = 50/8"
29-30, N = 51
34-35, N = 39
39-40, N = 50/10"
44-45, N = 50/10"
48-48.5, N = 25/0"
64-65, N = 25/0"
69-70, N = 25/0"
74-75, N = 25/0"
79-80, N = 25/0"

Sta. 160+55, 50' Rt (Boring 27)
0.5-1.5, N = 14
2.5-3.5, N = 10
4.5-5.5, N = 14
6.5-7.5, N = 15
9-10, N = 15
14-15, N = 14
19-20, N = 17
24-25, N = 50/8"
29-30, N = 50/9"
34-35, N = 38
39-40, N = 46
44-45, N = 35
49-50, N = 50/0"

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

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CONSULTING ENGINEERS

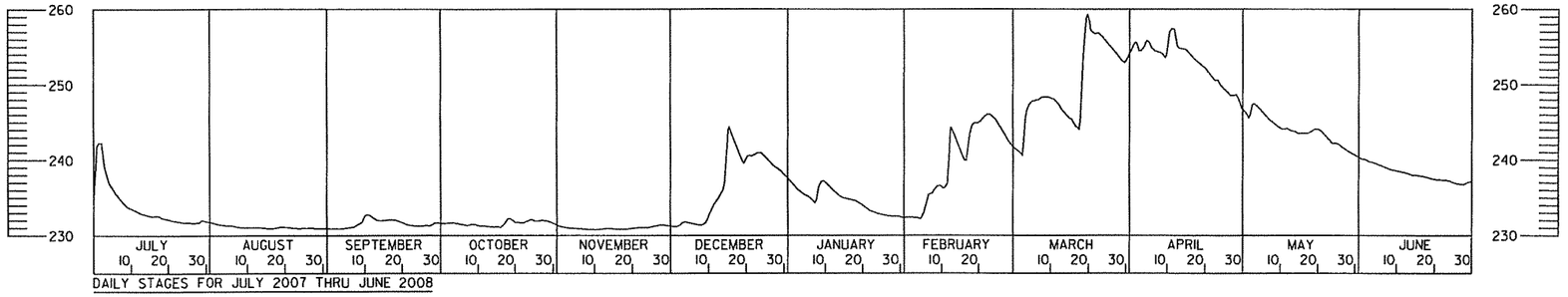
SHEET 4 OF 4
SOIL BORINGS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: AKH DATE: 8/10/12
CHECKED BY: STS DATE: 8/13/12
DESIGNED BY: ST DATE: 4/13/12
FILENAME: b100687_h4
SCALE: 1" = 20'

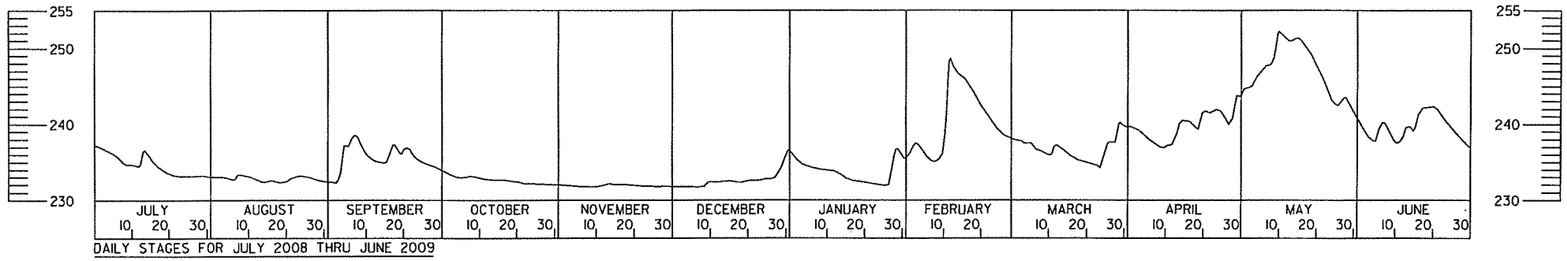
BRIDGE NO. 07263 DRAWING NO. 53106

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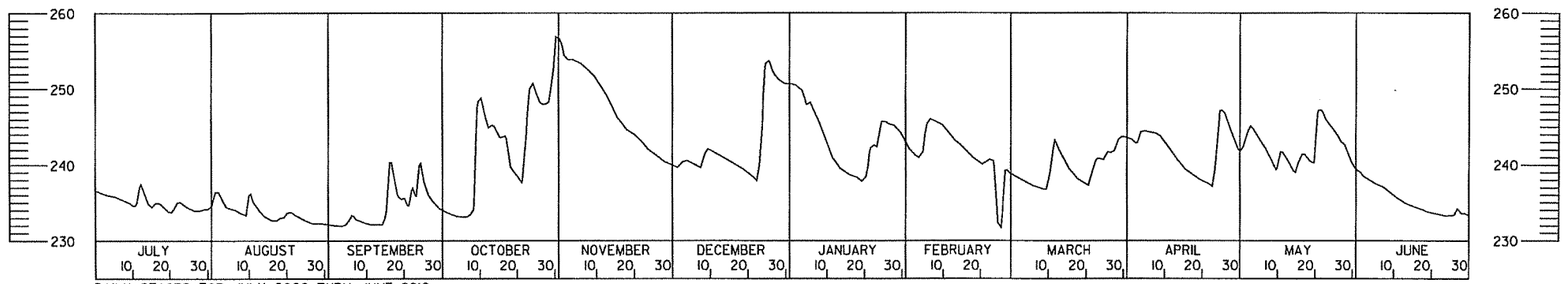
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	89	252
				(1) 07263		Hydrograph		53107



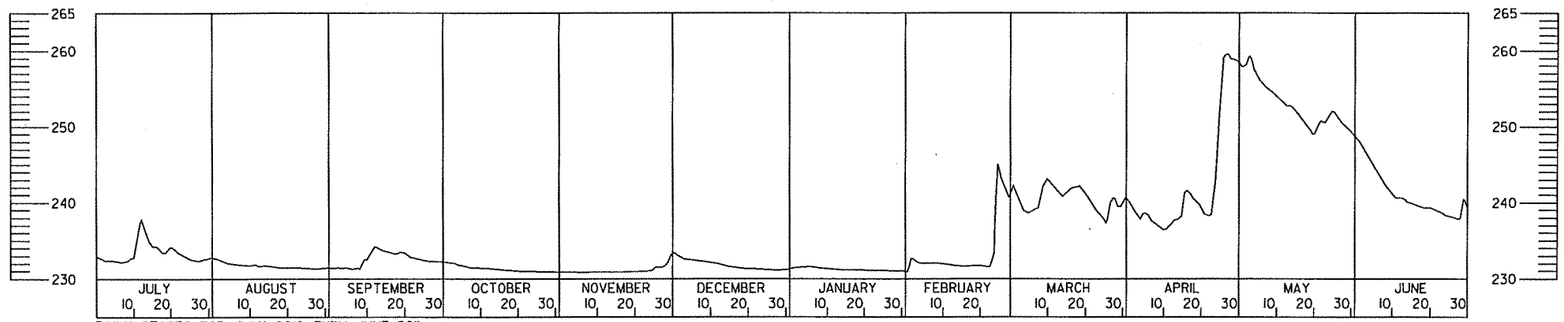
DAILY STAGES FOR JULY 2007 THRU JUNE 2008



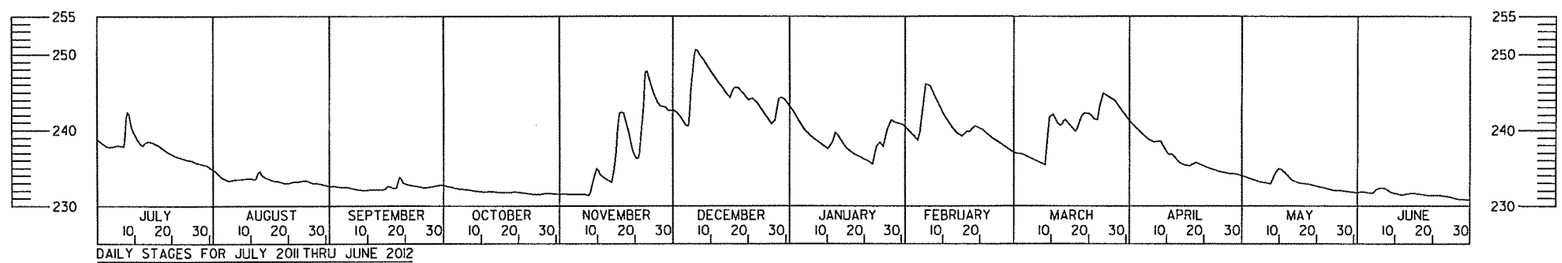
DAILY STAGES FOR JULY 2008 THRU JUNE 2009



DAILY STAGES FOR JULY 2009 THRU JUNE 2010



DAILY STAGES FOR JULY 2010 THRU JUNE 2011



DAILY STAGES FOR JULY 2011 THRU JUNE 2012

This Stage Hydrograph was obtained from the United States Army Corps of Engineers Little Rock District and was plotted by Bridgefarmer & Associates.

This hydrograph is provided for information only.

Location:

Latitude 36° 6' 9",
Longitude 91° 5' 52",
in NW 1/4,
Sec. 21,
T.17.N.,
R.1.W.,
on right bank beneath U.S. 63 bridge at Black Rock,
0.4 miles south of Black Rock,
3.7 miles downstream from Spring River,
160 miles upstream from Mississippi River,
and at river mile 69.3.

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

HYDROGRAPH - BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MDN	DATE:	07/05/12	FILENAME:	b100687_hg
CHECKED BY:	STS	DATE:	8/17/12	SCALE:	b100687_hg
DESIGNED BY:	MDN	DATE:	07/05/12		

BRIDGE NO. 07263 DRAWING NO. 53107

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DATE REVISED	DATE F&MED	DATE REVISED	DATE F&MED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	90	252
				(1) 07263		End Bent 1		53108

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13077
STEPHEN T. SMILEY
4 Sept 2012

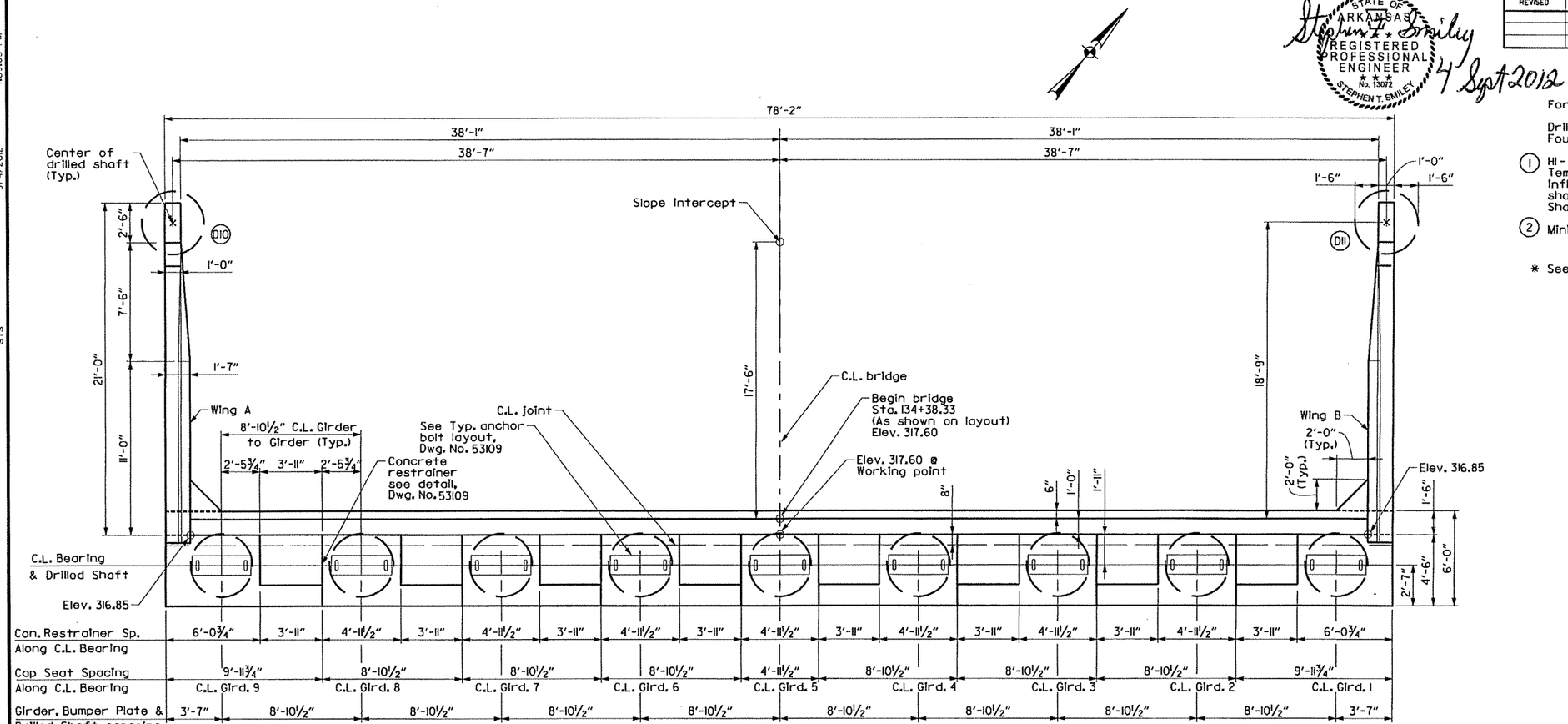
For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

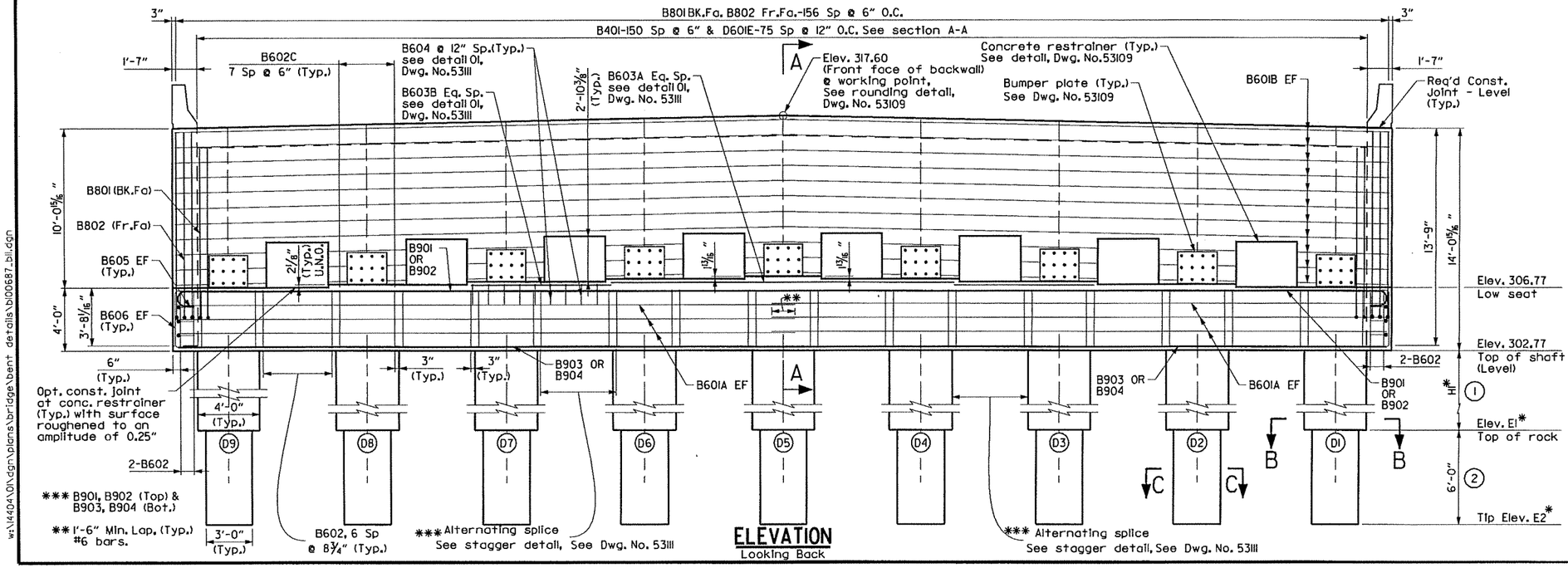
(1) HI - estimated length for temporary casing. See Dwg. 53111 Temporary casing will be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

(2) Minimum penetration into competent rock

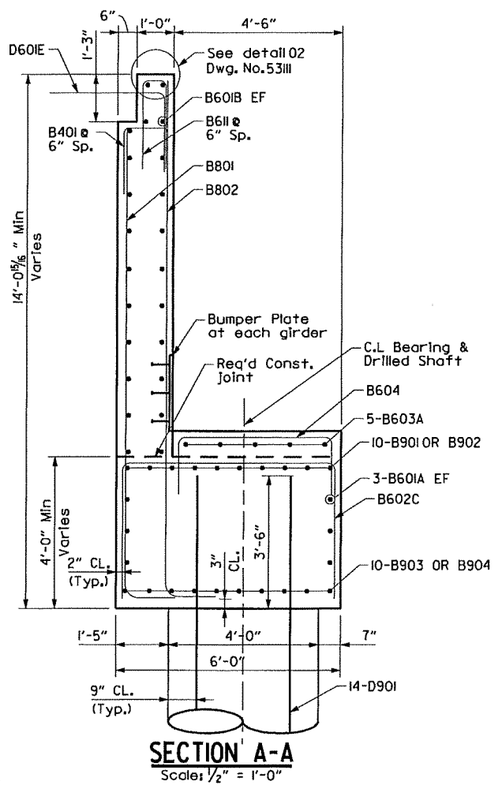
* See table of variables on Dwg. No. 53111



PLAN



ELEVATION
Looking Back



SECTION A-A
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 4
DETAILS OF END BENT 1
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_bll
CHECKED BY:	LK	DATE:	8/17/12	SCALE:	¼" = 1'-0"
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53108

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	91	252
				(1) 07263		End Bent 1		53109

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

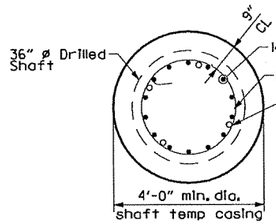
4/Sept 2012

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

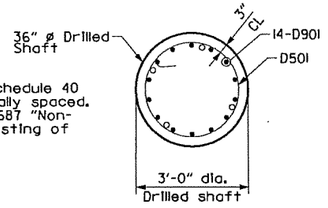
(2) The length of temporary casing tabulated on sheet 4, is for estimating quantities only. Actual lengths are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

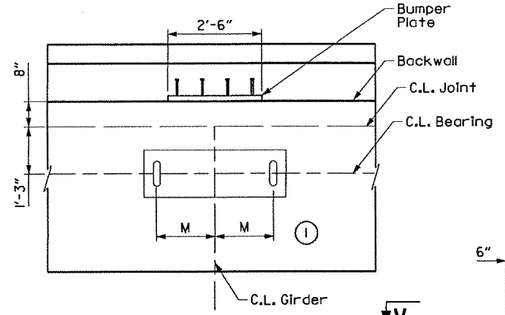
* See table of variables on Dwg. No. 53111



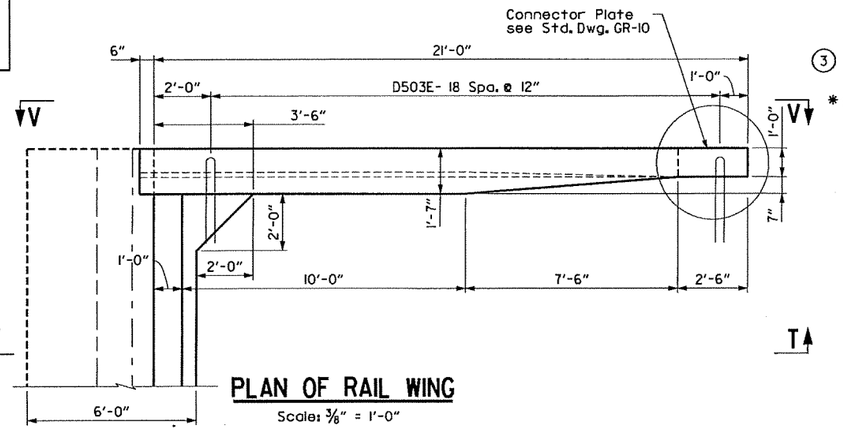
SECTION B-B
Scale: ½" = 1'-0"



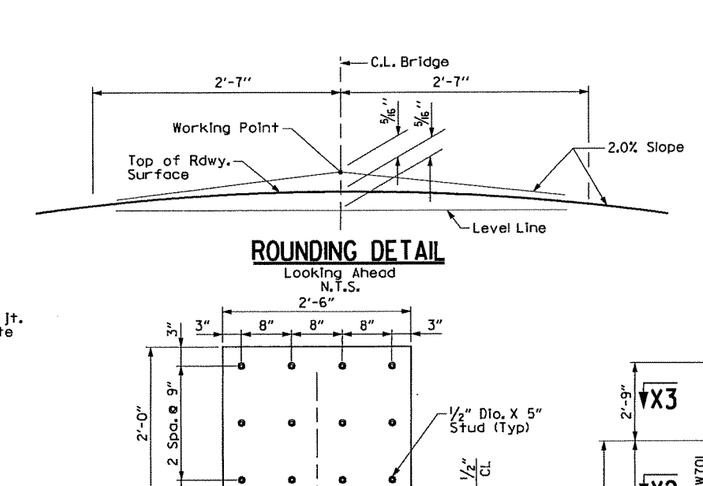
SECTION C-C
Scale: ½" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
Scale: ½" = 1'-0"

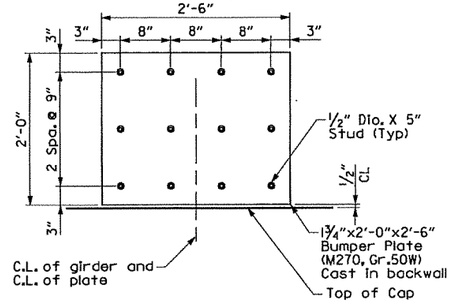


PLAN OF RAIL WING
Scale: ⅜" = 1'-0"

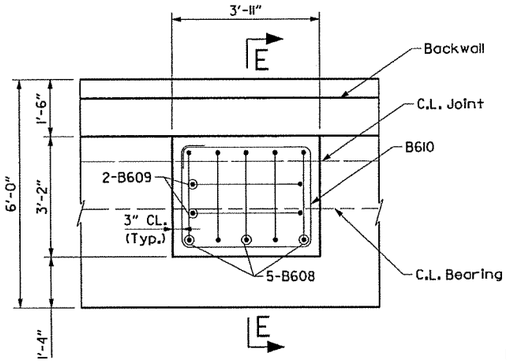


SECTION E-E
Scale: ½" = 1'-0"

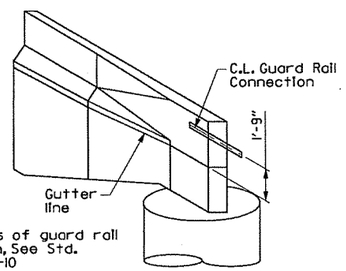
ROUNDING DETAIL
Looking Ahead
N.T.S.



BUMPER PLATE DETAIL
Scale: N.T.S.

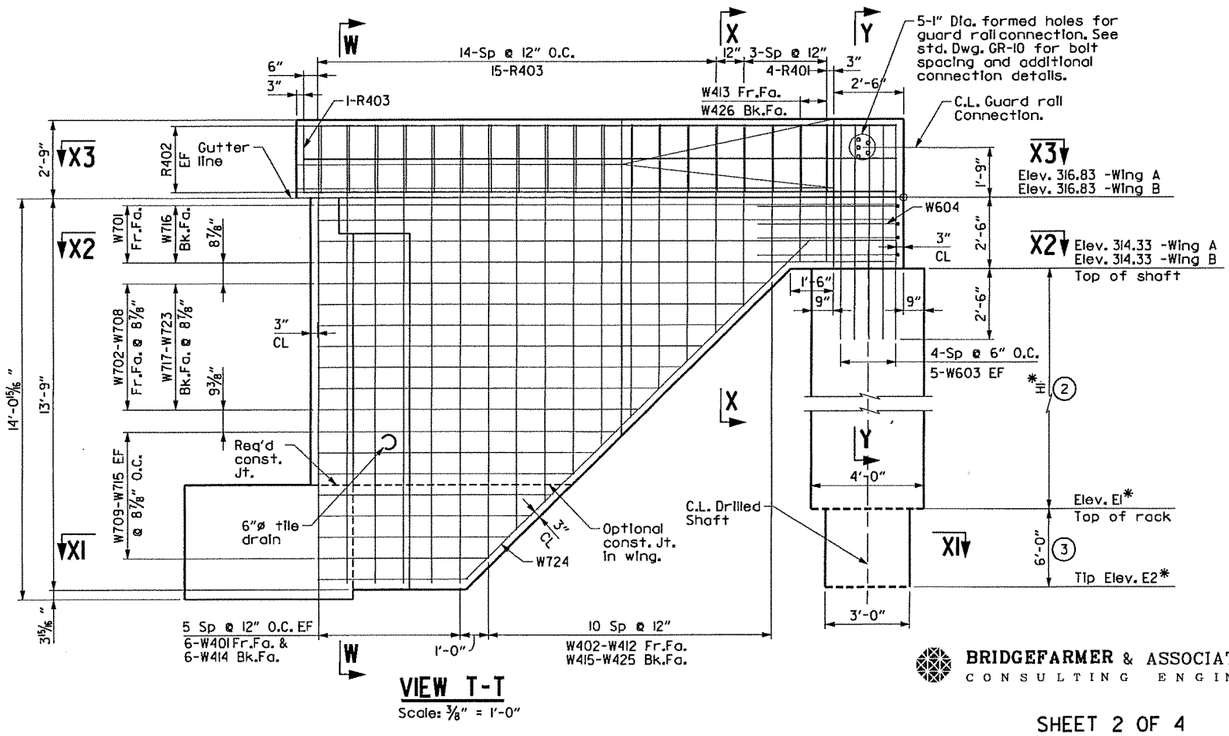


CONCRETE RESTRAINER DETAIL
Scale: ½" = 1'-0"



For details of guard rail connection, See Std. Dwg. no. GR-10

THREE DIMENSIONAL VIEW OF RAIL
N.T.S.



VIEW T-T
Scale: ⅜" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 4
DETAILS OF END BENT 1
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_bl2
CHECKED BY:	LK	DATE:	8/17/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53109

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	92	252
				(1) 07263		End Bent 1		53110

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

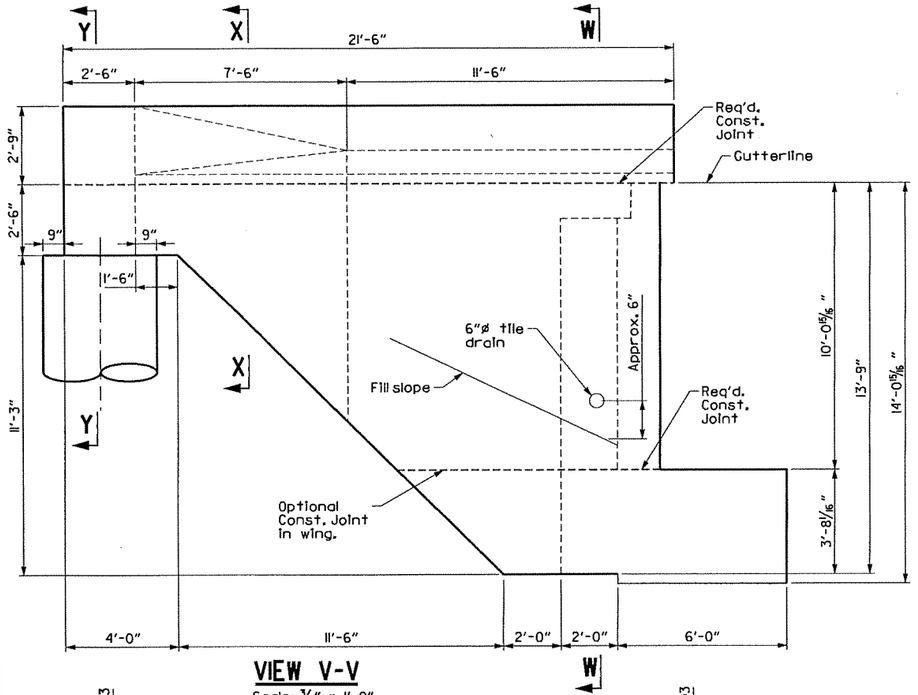
4 Sept 2012

(1) The length of temporary casing tabulated on sheet 4, is for estimating quantities only. Actual lengths are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(2) Minimum penetration into competent rock below cased drilled shaft.

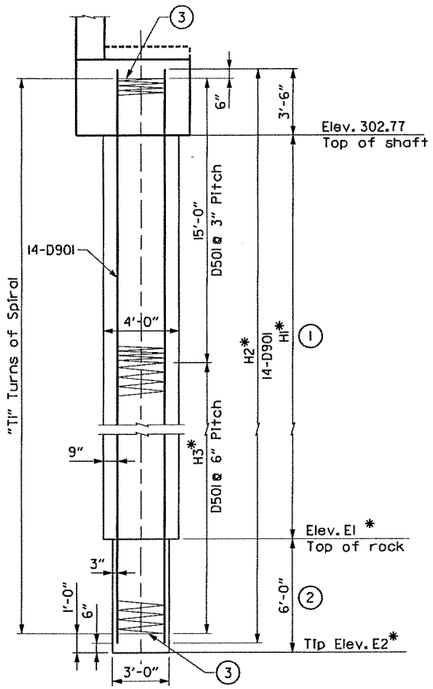
(3) End spiral reinforcing with 1½ flat turns.

* See table of variables on Dwg. No. 53111



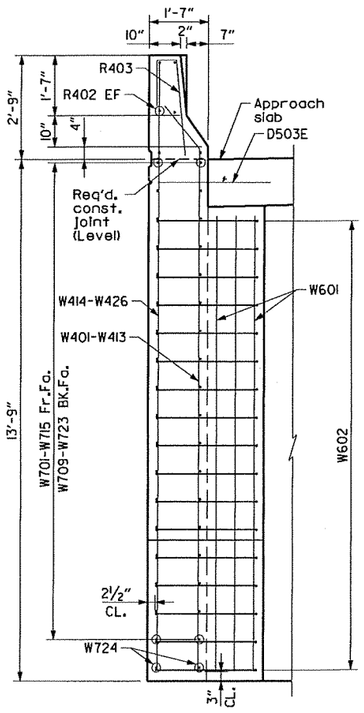
VIEW V-V

Scale: ⅜" = 1'-0"



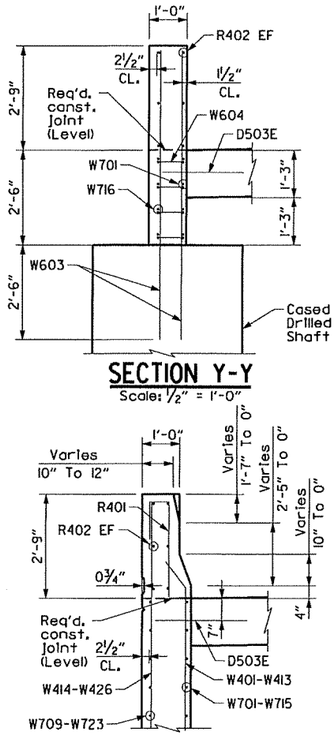
END VIEW

Scale: ¼" = 1'-0"



SECTION W-W

Scale: ½" = 1'-0"

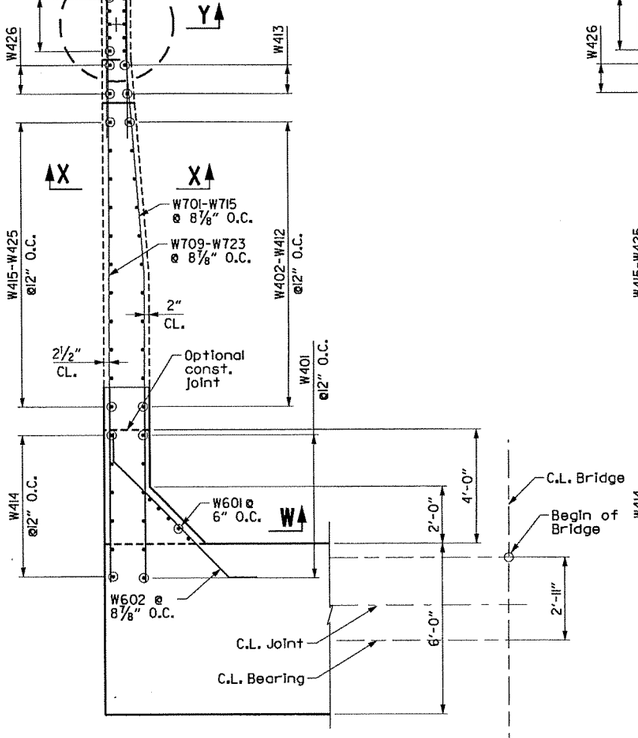


SECTION Y-Y

Scale: ½" = 1'-0"

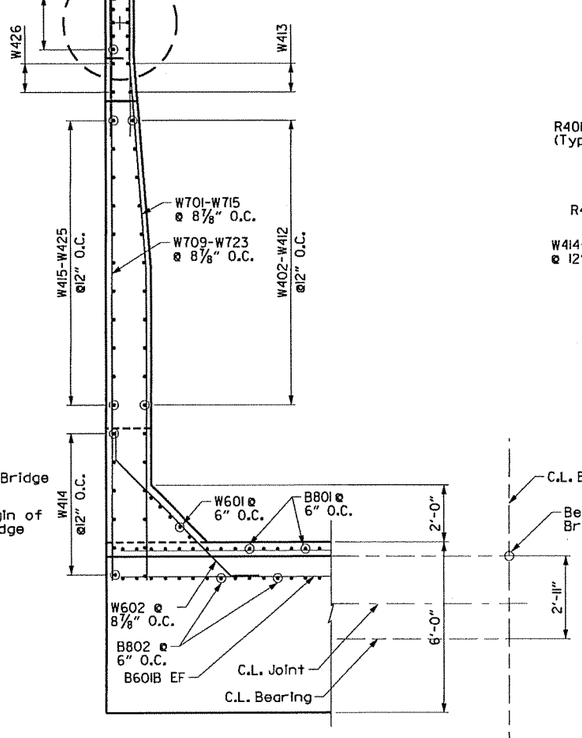
SECTION X-X

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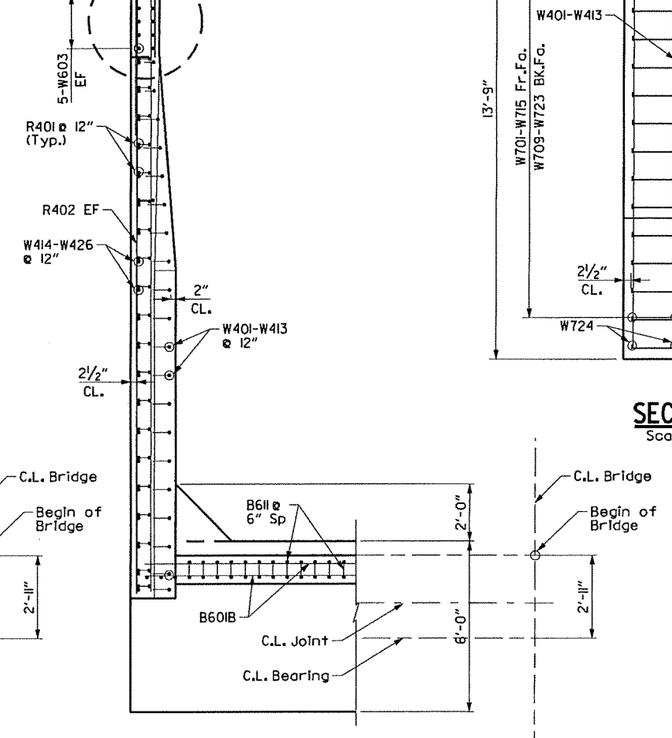
SECTION X1-X1

Scale: ⅜" = 1'-0"



SECTION X2-X2

Scale: ⅜" = 1'-0"



SECTION X3-X3

Scale: ⅜" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 4
DETAILS OF END BENT 1
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b13
CHECKED BY:	LK	DATE:	8/17/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

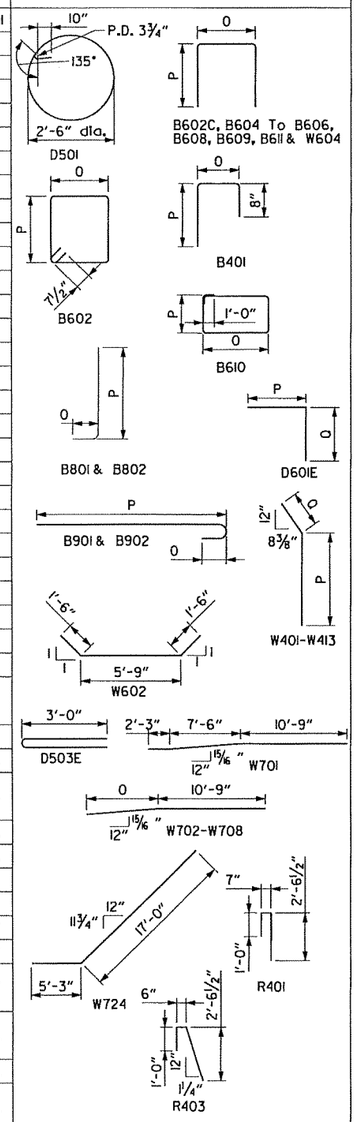
BRIDGE NO. 07263 DRAWING NO. 53110

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BAR LIST

Mark	No. Req'd	P	O	Length	Pin Dia.
Drilled shaft					
D501 *	1	-	-	L1	Spiral
D901 *	14	-	-	H2	Str.
Cap & Backwall					
B401	151	1'-9"	1'-2"	3'-5"	2"
B601A	12	-	-	39'-6"	Str.
B601B	46	-	-	39'-8"	Str.
B602	60	3'-7"	5'-8"	19'-4"	4½"
B602C	72	3'-7"	5'-8"	12'-6"	4½"
B603A	5	-	-	22'-0"	Str.
B603B	10	-	-	9'-0"	Str.
B604	41	1'-6"	4'-2"	6'-10"	4½"
B605	6	1'-0"	5'-6½"	7'-2½"	4½"
B606	10	1'-0"	3'-5½"	5'-1½"	4½"
B608	40	4'-7"	2'-6½"	11'-4½"	4½"
B609	16	4'-7"	3'-2"	12'-0"	4½"
B610	32	2'-8"	3'-5"	13'-4"	4½"
B611	151	2'-0"	8"	4'-4"	4½"
B801	157	12'-4"	1'-4"	13'-5½"	6"
B802	157	13'-7"	1'-4"	14'-8½"	6"
B901	10	28'-8"	10"	29'-11"	9"
B902	10	54'-6"	10"	55'-9"	9"
B903	10	-	-	28'-8"	Str.
B904	10	-	-	54'-6"	Str.
D601E	76	3'-1"	2'-10"	5'-9"	4½"
Wing Walls					
W401	12	13'-10"	1'-11"	15'-9"	2"
W402 TO W412	22	12'-11½" To 3'-1½"	1'-11"	14'-10½" To 5'-0½"	2"
W413	4	2'-7"	1'-11"	4'-6"	2"
W414	12	-	-	16'-1"	Str.
W415 TO W425	22	-	-	15'-2½" To 6'-4½"	Str.
W426	4	-	-	4'-10"	Str.
W601	10	-	-	12'-0"	Str.
W602	34	-	-	8'-9"	2"
W603	20	-	-	7'-7"	Str
W604	8	5'-0"	8"	10'-4"	4½"
W701	8	-	-	20'-6"	5¼"
W702 TO W708	14	10'-9"	5'-1½" To 0'-7"	15'-10½" To 11'-4"	5¼"
W709 TO W715	28	-	-	10'-7" To 6'-0½"	Str.
W716	8	-	-	20'-6"	Str.
W717 TO W723	14	-	-	15'-10½" To 12'-1"	Str.
W724	4	-	-	22'-3"	5¼'
D503E	38	-	-	6'-2"	3¾"
Rail					
R401	8	-	-	4'-0"	2"
R402	12	-	-	21'-0"	Str.
R403	32	-	-	3'-11"	2"

Bending Diagrams



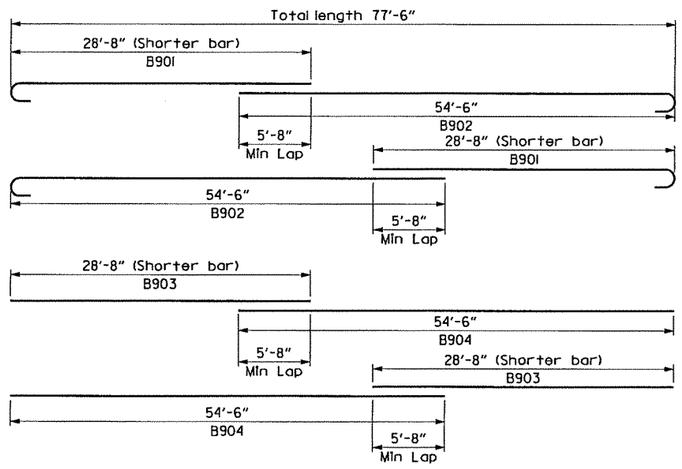
Bars designated with an "E" suffix are to be epoxy coated.

The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"

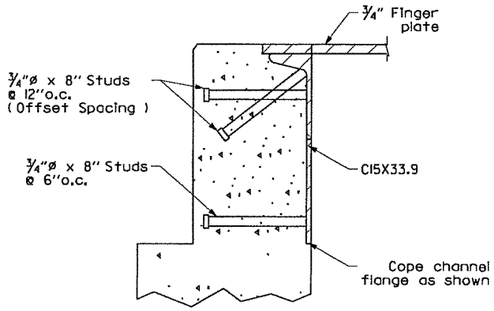
TABLE OF VARIABLES

Drilled Shaft	E1	E2	H1	H2	H3	L1	T1
D1	259.27	253.27	43'-6"	52'-6"	36'-6"	1051'-7"	133
D2	264.27	258.27	38'-6"	47'-6"	31'-6"	974'-6"	123
D3	269.77	263.77	33'-0"	42'-0"	26'-0"	889'-9"	112
D4	274.77	268.77	28'-0"	37'-0"	21'-0"	812'-8"	102
D5	280.77	274.27	22'-6"	31'-6"	15'-6"	727'-11"	91
D6	285.77	279.77	17'-0"	26'-0"	10'-0"	643'-1"	80
D7	291.27	287.27	11'-6"	20'-6"	4'-6"	543'-0"	67
D8	296.27	290.77	6'-6"	15'-6"	-	306'-1"	38
D9	298.77	292.77	4'-0"	13'-0"	-	229'-1"	28
D10	299.83	293.83	14'-6"	23'-6"	7'-6"	604'-7"	75
D11	265.83	259.83	48'-6"	57'-6"	41'-6"	1128'-8"	143



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

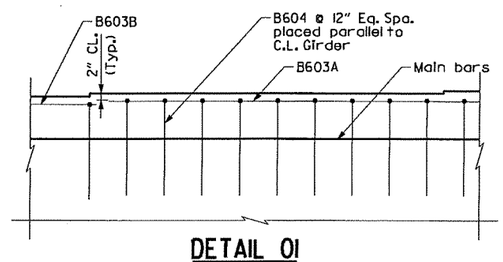


Note: For additional Joint Details, see Dwg. No. 53163

DETAIL-02

N.T.S.

Note: Concrete shall be hand packed under the joint armor in the backwall.



DETAIL 01

Detail 01 to be applied only at cap seat under Gird.3 to Gird.7. other bars not shown for clarity

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	93	252
				(1) 07263		End Bent 1		53111

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 4
DETAILS OF END BENT 1
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_bl4
CHECKED BY:	LK	DATE:	8/17/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53111

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	94	252
				(1) 07263		Bent 2		53112

STATE OF ARKANSAS
Stephen F. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN SMILEY
4 Sept 2012

Ahead Stationing

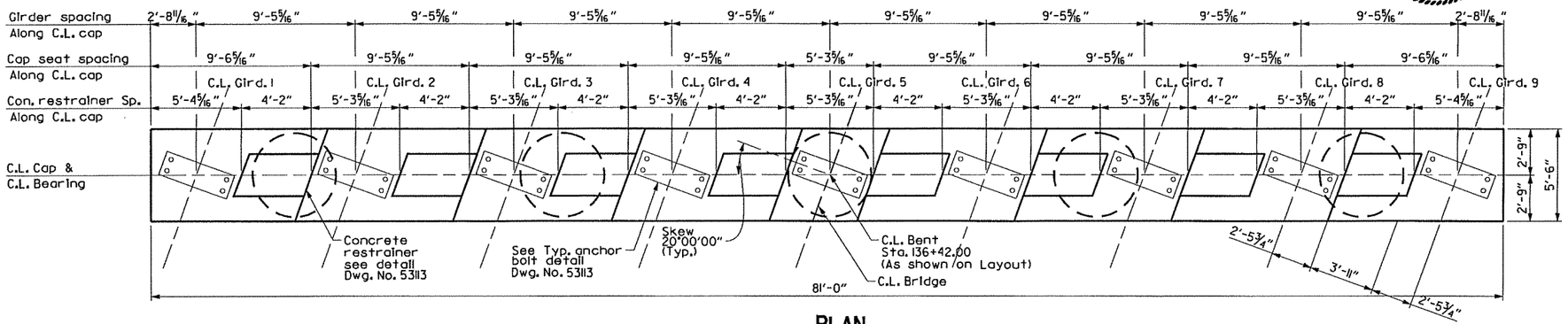
For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

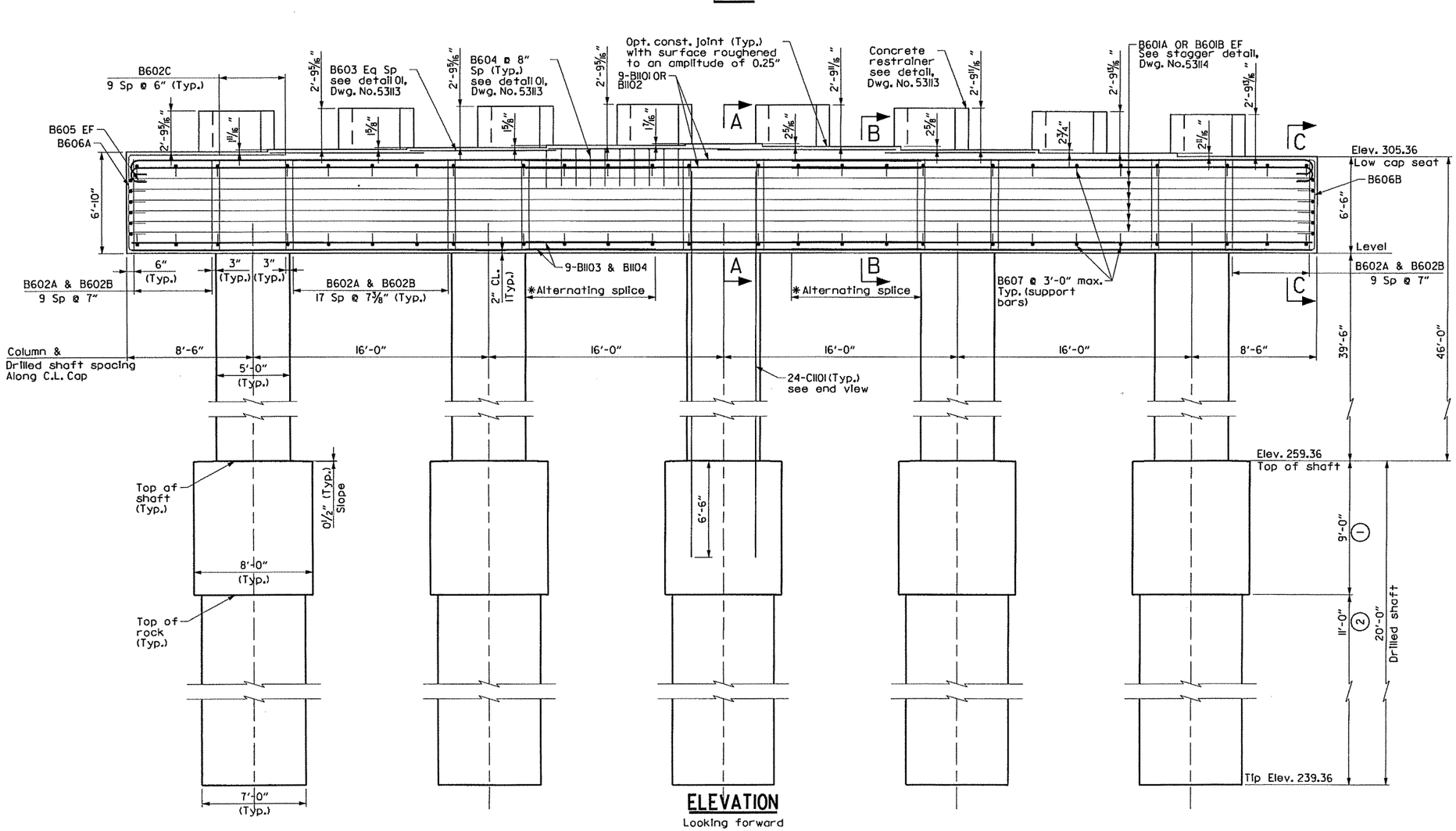
(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

(2) Minimum penetration into competent rock below temporary casing

* B1101, B1102 (Top), B1103 & B1104 (Bottom) See stagger detail, Dwg. No. 53114

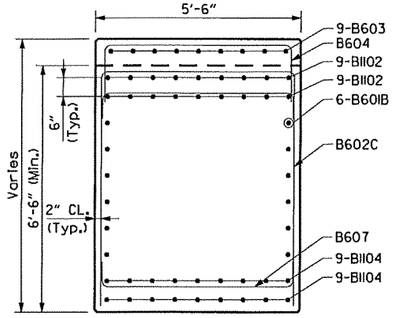


PLAN



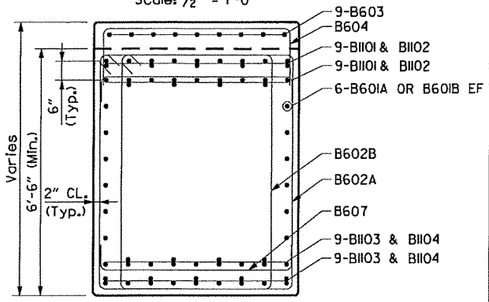
ELEVATION

Looking forward



SECTION A-A

Scale: 1/2" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENT 2
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b2i
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07263 DRAWING NO. 53112

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	95	252
				(1) 07263		Bent 2		53113

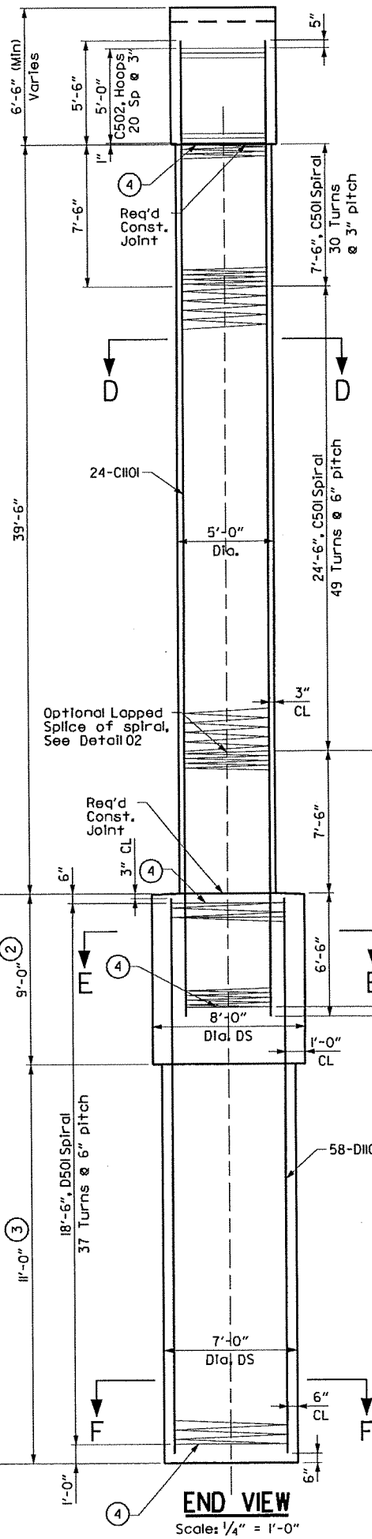
STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

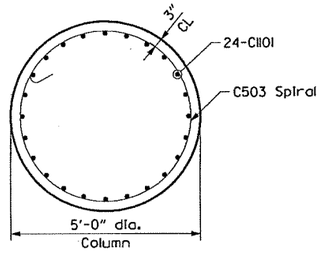
(1) For details and dimensions M & E of elastomeric bearing, see Dwg. No. 53162

(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

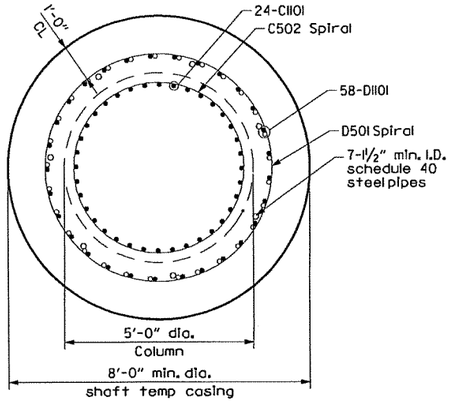
(3) Minimum penetration into competent rock below cased drilled shaft.

(4) End spiral reinforcing with 1½ flat turns.

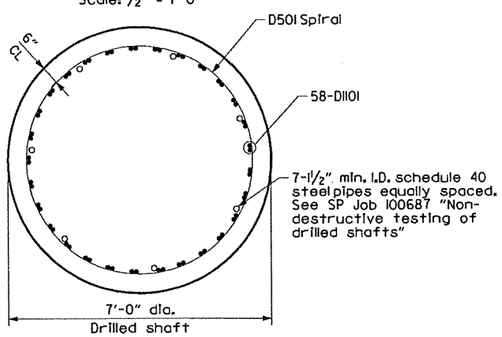




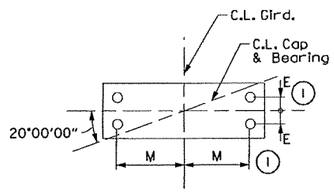
SECTION D-D
Scale: 1/2" = 1'-0"



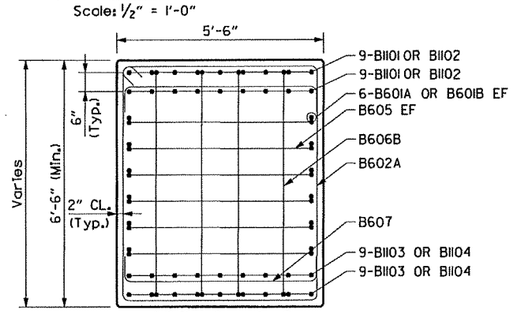
SECTION E-E
Scale: 1/2" = 1'-0"



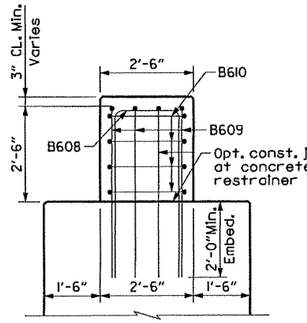
SECTION F-F
Scale: 1/2" = 1'-0"



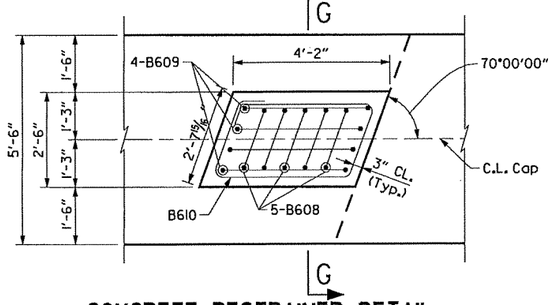
TYPICAL ANCHOR BOLT LAYOUT
Scale: 1/2" = 1'-0"



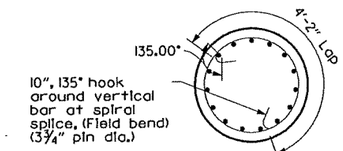
SECTION C-C
Scale: 1/2" = 1'-0"



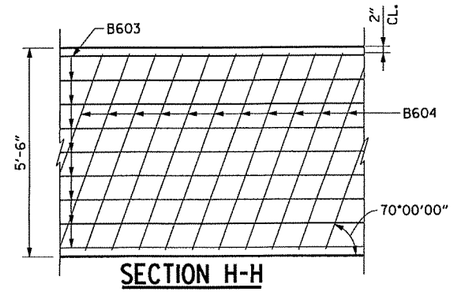
SECTION G-G
Scale: 1/2" = 1'-0"



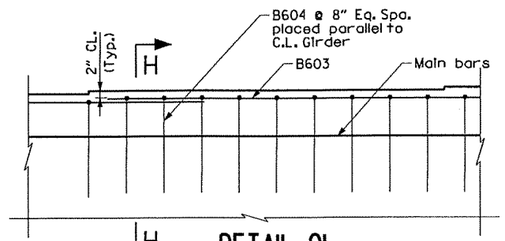
CONCRETE RESTRAINER DETAIL
Scale: 1/2" = 1'-0"



DETAIL 02
Scale: N.T.S.



SECTION H-H



DETAIL 01
Detail 01 to be applied only at cap seat under Gird.1 to Gird.7 other bars not shown for clarity
N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENT 2
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b22
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53113

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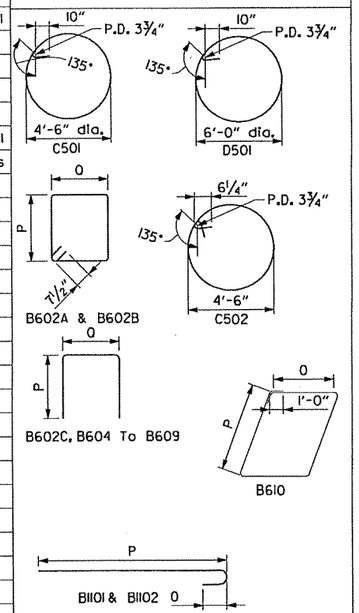
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				6	ARK.			
				JOB NO.		100687	96	252
				(1) 07263		Bent 2		53114

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

BAR LIST

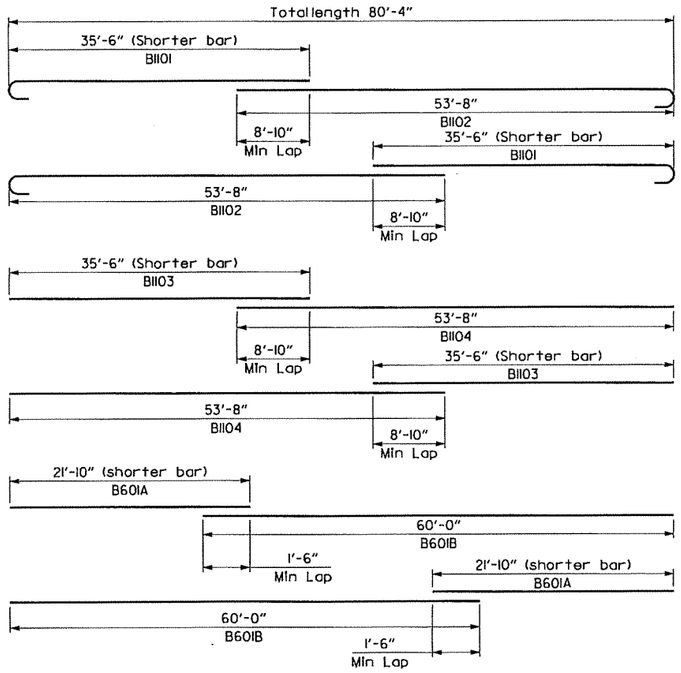
Mark	No. Req'd	P	O	Length	Pin Dia.
Drilled shaft					
D501 *	5	-	-	749'-10"	Spiral
D1101 *	290	-	-	19'-3"	Str.
Columns					
C501	5	-	-	1907'-5"	Spiral
C502	105	-	-	15'-5½"	Hoops
C1101	120	-	-	51'-6"	Str.
Cap					
B601A	12	-	-	21'-10"	Str.
B601B	12	-	-	60'-0"	Str.
B602A	92	6'-2"	5'-2"	23'-6"	4½"
B602B	92	6'-2"	4'-0"	21'-2"	4½"
B602C	50	6'-2"	5'-2"	17'-2"	4½"
B603	54	-	-	12'-0"	Str.
B604	94	2'-6"	5'-6"	10'-2"	4½"
B605	12	1'-0"	5'-0½"	6'-8½"	4½"
B606A	4	1'-0"	6'-4½"	8'-0½""	4½"
B606B	4	1'-0"	6'-0½"	7'-8½"	4½"
B607	52	1'-0"	5'-2"	6'-10"	4½"
B608	40	4'-6"	1'-10⅜"	10'-6⅜"	4½"
B609	32	4'-6"	3'-6"	12'-2"	4½"
B610	32	2'-1½"	3'-7½"	12'-8"	4½"
B1101	18	35'-6"	1'-0½"	37'-0"	11¼"
B1102	18	53'-8"	1'-0½"	55'-2"	11¼"
B1103	18	-	-	35'-6"	Str.
B1104	18	-	-	53'-8"	Str.

Bending Diagrams



The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENT 2
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b23
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BRIDGE NO. 07263 DRAWING NO. 53114

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	97	252
				(1) 07263		Bent 3		53115

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012

For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Permanent casing may be required, see SP Job 100687 "Drilled Shaft Foundations"

(2) Minimum penetration into competent rock below temporary casing

* B1101, B1102 (Top), B1103 & B1104 (Bot.) see stagger detail on Dwg. No. 53117

** T1101 & T1102 (Top & Bot.) see stagger detail on Dwg. No. 53117

Ahead Stationing

Girder spacing Along C.L. cap: 2'-8 11/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 2'-8 11/16"

Cap seat spacing Along C.L. cap: 9'-6 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 5'-3 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-5 5/16" | 9'-6 5/16"

C.L. Gird. 1 | C.L. Gird. 2 | C.L. Gird. 3 | C.L. Gird. 4 | C.L. Gird. 5 | C.L. Gird. 6 | C.L. Gird. 7 | C.L. Gird. 8 | C.L. Gird. 9

Con. restrainer Sp. Along C.L. cap: 5'-4 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-3 5/16" | 4'-2" | 5'-4 5/16"

C.L. Cap & C.L. Bearing

3'-3" | 6'-6" | 3'-3"

Concrete restrainer see detail Dwg. No. 53116

See Typ. anchor bolt layout Dwg. No. 53116

Skew 20°00'00" (Typ.)

C.L. Bridge

C.L. Bent Sta. 139+52.00 (As shown on layout)

81'-0"

2'-5 3/4" | 3'-11" | 2'-5 3/4"

PLAN

B604 @ 8" Sp. (Typ.) see detail 01, Dwg. No. 53116

B603B Eq. Sp. see detail 01, Dwg. No. 53116

B603A Eq. Sp. see detail 01, Dwg. No. 53116

Opt. const. joint (Typ.) with surface roughened to an amplitude of 0.25"

Concrete restrainer see detail Dwg. No. 53116

B607 @3'-0" max. Typ. (Support bars)

B602C 11 Sp @ 6" (Typ.)

15-B1101 OR B1102

B605 EF

B606A

B606B Elev. 298.31 Low cap seat

2'-9 1/4" | 2'-9" | 2'-9" | 2'-9" | 2'-9 1/16" | 2'-9 1/16" | 2'-10 1/16" | 2'-10 1/16"

15/16" | 1 1/16" | 1 1/16" | 0 7/8" | 2 1/8" | 3 3/16" | 3 5/16" | 3 3/16"

8'-2 1/4"

7'-6" | Level

6" (Typ.) | 3" (Typ.) | 3" (Typ.) | 6'-0" (Typ) | B602 19 Sp @ 6" (Typ.) | 2" CL. (Typ.)

B602 10 Sp @ 5 3/4" | Column spacing Along C.L. Cap: 8'-6" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | B602, 10 Sp @ 5 3/4" | 8'-6"

15-B1103 OR B1104

*Alternating splice

32-C1101 (Typ.) see end view

B601A OR B601B EF See stagger detail, Dwg. No. 53117

15-B1103 OR B1104

37'-0" | 44'-6"

T605 EF

T606A

T602C, 19 Sp @ 6" (Typ.)

16-T1101 OR T1102

T601A OR T601B EF See stagger detail Dwg. No. 53117

T607 @ 3'-0" max. Typ (support bars)

T606B Level

Top of shaft (Typ.)

7'-6" | Level | Elev. 246.31 Top of shaft

6" (Typ.) | 3" (Typ.) | 3" (Typ.) | 2'-6" | T602A & T602B 4 Sp @ 5 1/4" | 10'-0" (Typ) | T602A & T602B 11 Sp @ 6" (Typ) | 16'-0" | **Alternating splice | 16'-0" | **Alternating splice | 16'-0" | B602, 11 Sp @ 6" (Typ.) | 16'-0" | T602A & T602B 4 Sp @ 5 1/4" | 7'-6" | 2'-6"

Drilled Shaft Spacing Along C.L. Cap

28'-6" (1) | 42'-6" Drilled shaft | 50'-0"

79'-0"

Top of rock (Typ.)

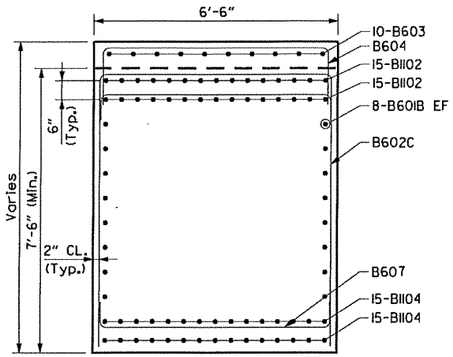
9'-0" (Typ)

14'-0" (2)

Tip Elev. 203.81

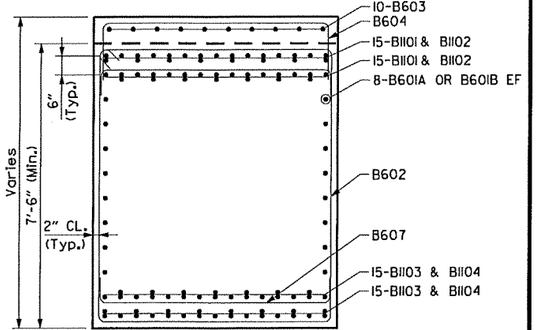
ELEVATION

Looking forward



SECTION A-A

Scale: 1/2" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENT 3
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b31
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	1/4" = 1'-0"
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53115

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	98	252
				(1) 07263		Bent 3		53116

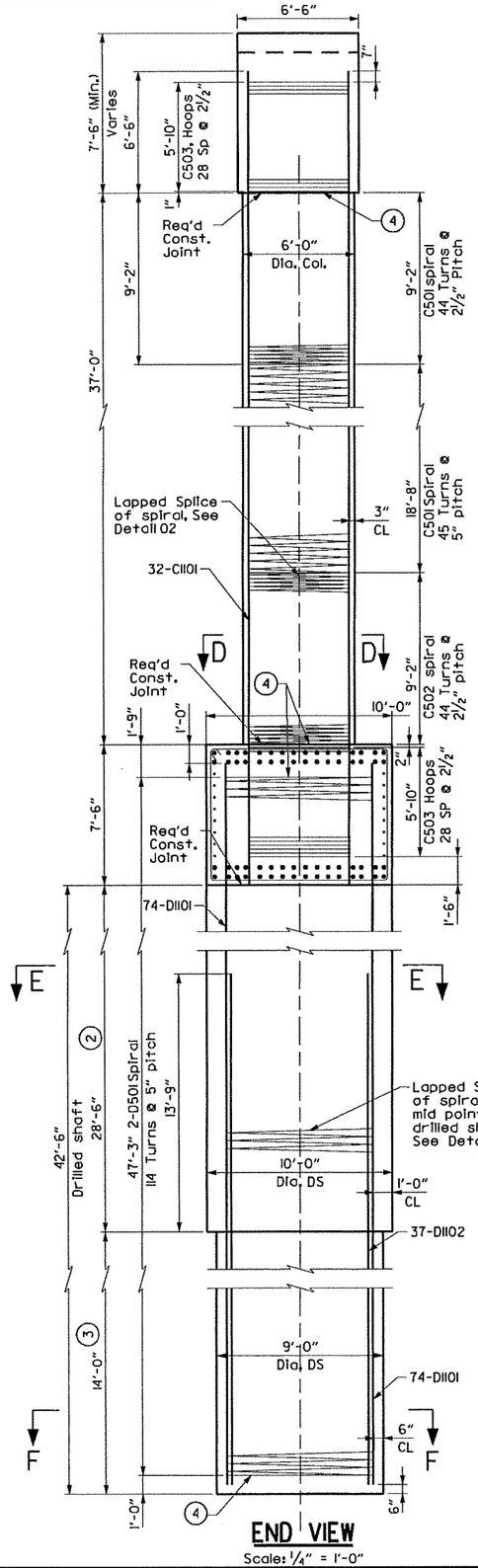
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

(1) For details and dimensions M & E of elastomeric bearing, see Dwg. No. 53162

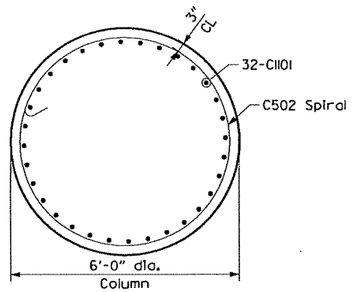
(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

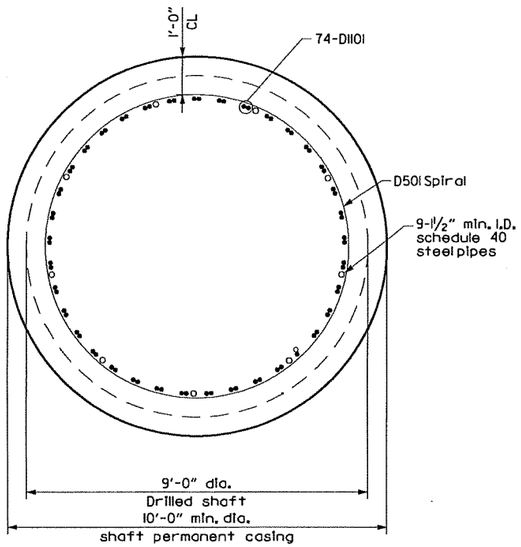
(4) End spiral reinforcing with 1½ flat turns.



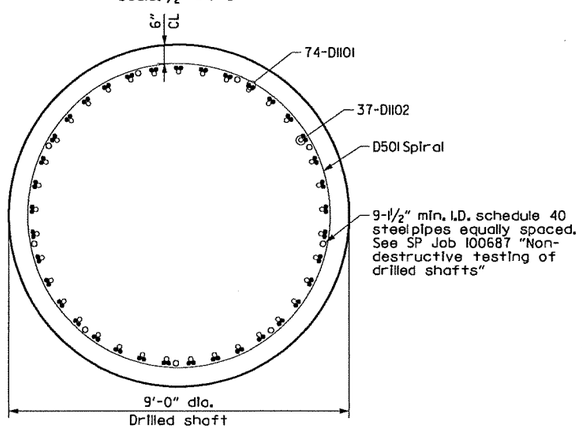
END VIEW
Scale: ¼" = 1'-0"



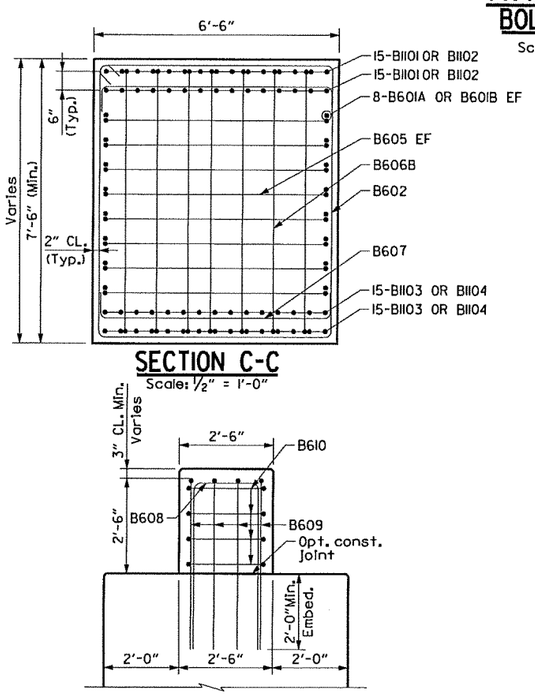
SECTION D-D
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"

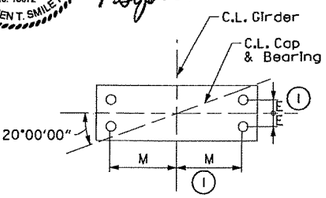


SECTION F-F
Scale: ½" = 1'-0"

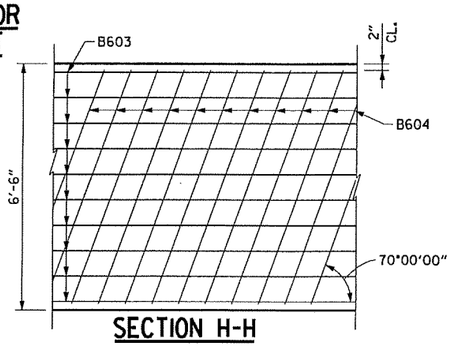


SECTION C-C
Scale: ½" = 1'-0"

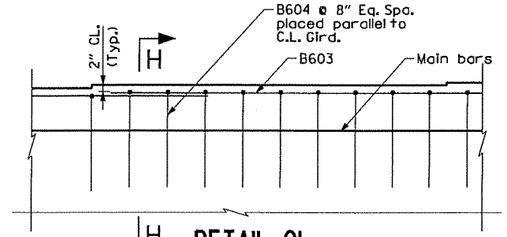
SECTION G-G
Scale: ½" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
Scale: ½" = 1'-0"

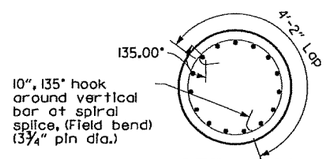


SECTION H-H

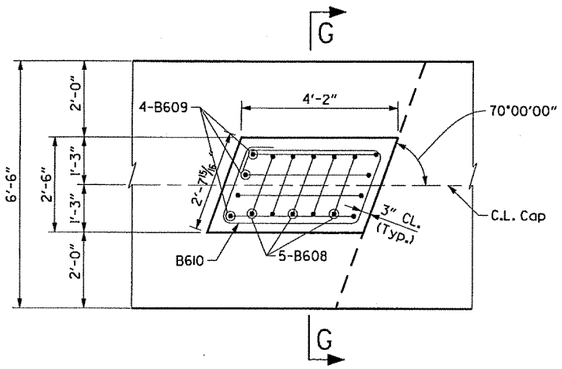


H DETAIL 01

Detail 01 to be applied only at cap seat under Gird. 1 to Gird. 7 other bars not shown for clarity
N.T.S.



DETAIL 02
Scale: N.T.S.



CONCRETE RESTRAINER DETAIL
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENT 3
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

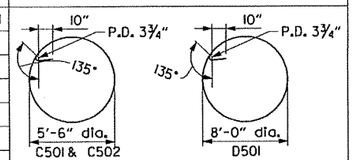
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CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53116

BAR LIST

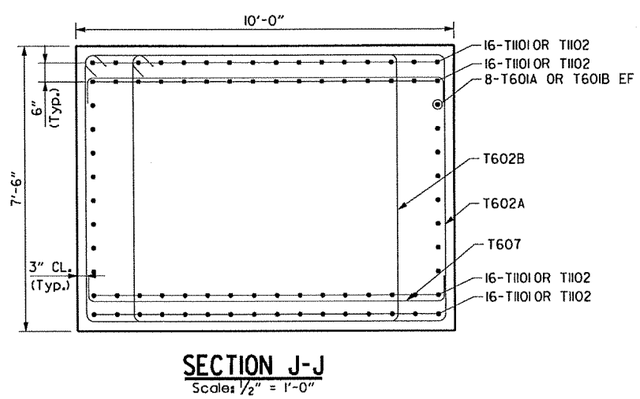
Mark	No. Req'd	P	Q	Length	Pin Dia.
Drilled shaft					
* D501	10	-	-	1465'-1"	Spiral
* D1101	370	-	-	48'-6"	Str.
* D1102	185	-	-	27'-3"	Str.
Tie beam					
T601A	16	-	-	19'-10"	Str.
T601B	16	-	-	60'-0"	Str.
T602A	58	7'-0"	9'-6"	33'-10"	4½"
T602B	58	7'-0"	7'-0"	28'-10"	4½"
T602C	100	7'-0"	9'-6"	23'-2"	4½"
T607	28	1'-0"	9'-6"	11'-2"	4½"
T1101	64	-	-	37'-0"	Str.
T1102	64	-	-	50'-2"	Str.
Columns					
C501	5	-	-	1555'-6"	Spiral
C502	5	-	-	783'-0"	Spiral
C503	290	-	-	18'-7½"	Hoops
C1101	160	-	-	51'-0"	Str.
Cap					
B601A	16	-	-	21'-10"	Str.
B601B	16	-	-	60'-0"	Str.
B602	102	7'-2"	6'-2"	27'-6"	4½"
B602C	60	7'-2"	6'-2"	20'-2"	4½"
B603A	10	-	-	22'-0"	Str.
B603B	20	-	-	11'-0"	Str.
B604	94	2'-6"	6'-6¾"	11'-2¾"	4½"
B605	16	1'-0"	6'-0½"	7'-8½"	4½"
B606A	7	1'-0"	7'-8¾"	9'-4¾"	4½"
B606B	7	1'-0"	7'-0½"	8'-8½"	4½"
B607	52	1'-0"	6'-2"	7'-10"	4½"
B608	40	4'-6"	1'-10⅜"	10'-6⅜"	4½"
B609	32	4'-6"	3'-6"	12'-2"	4½"
B610	32	2'-1½"	3'-7½"	12'-8"	4½"
B1101	30	36'-0"	1'-0½"	37'-6"	11¼"
B1102	30	53'-2"	1'-0½"	54'-8"	11¼"
B1103	30	-	-	36'-0"	Str.
B1104	30	-	-	53'-2"	Str.

Bending Diagrams



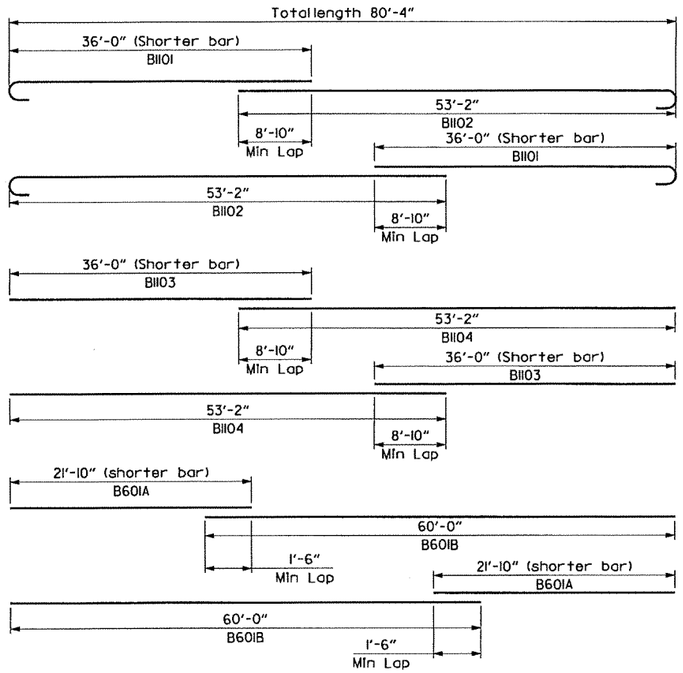
The dimensions shown for the bending diagrams are out-to-out of bars.

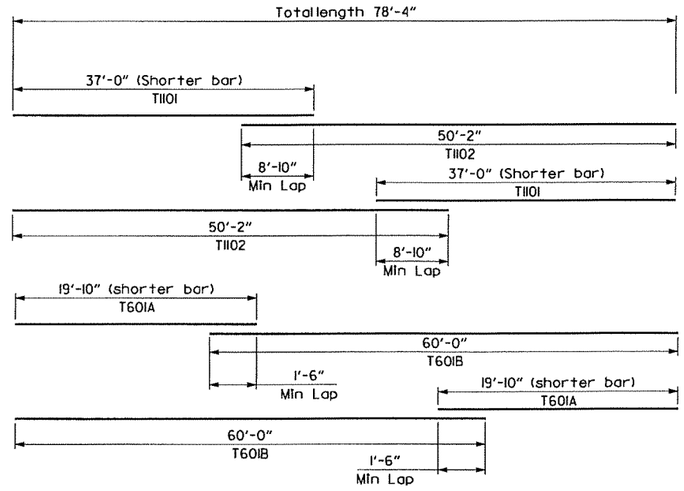
* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



SECTION J-J

Scale: ½" = 1'-0"





BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	99	252
				07263		Bent 3		53117

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENT 3
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b33
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53117

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	100	252
				(1) 07263		Bent 4		53118

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

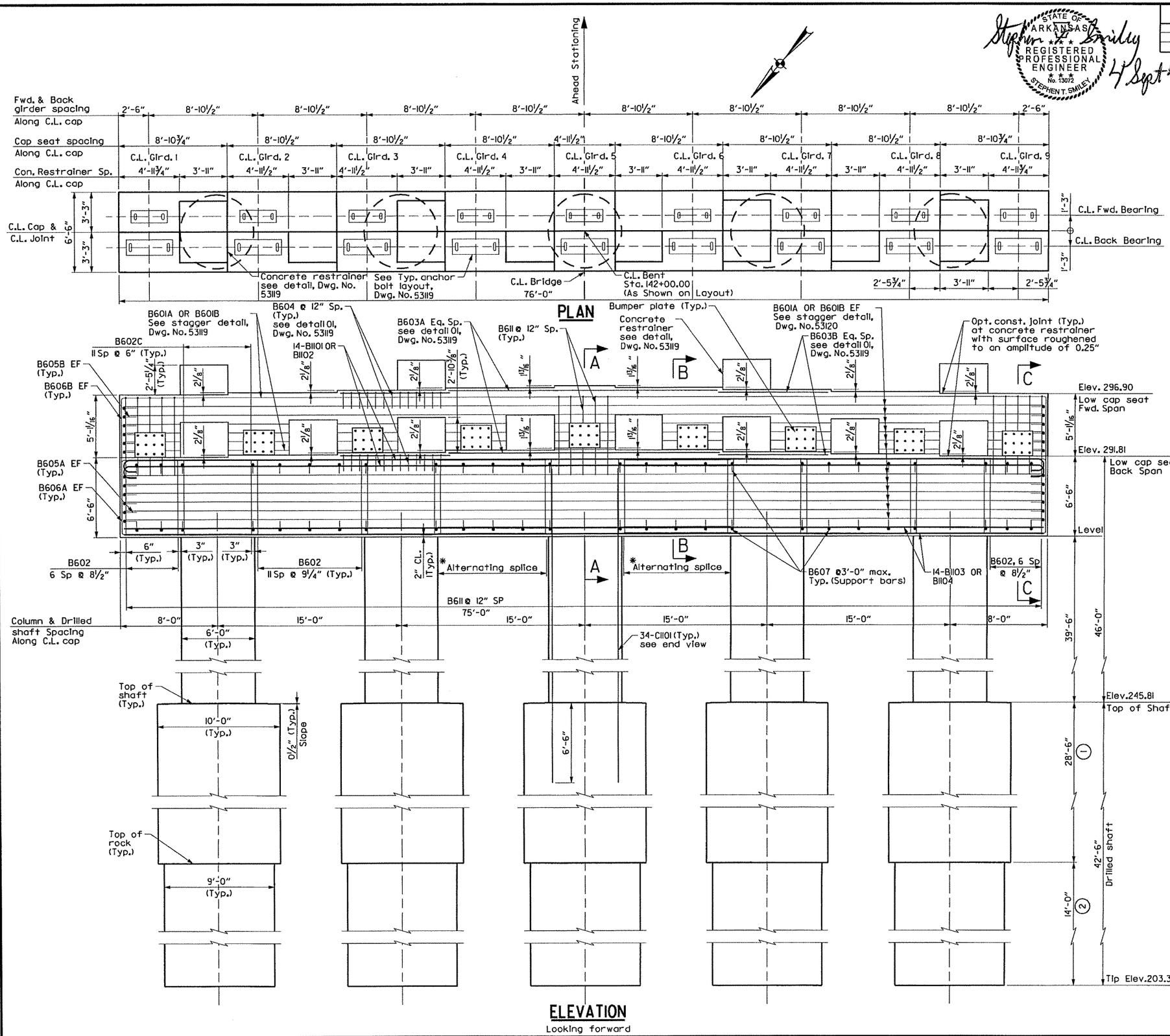
For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

(2) Minimum penetration into competent rock below temporary casing

* B1101, B1102 (Top), B1103 & B1104 (Bot.) see stagger detail on Dwg. No. 53120



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BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENT 4
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b41
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07263 DRAWING NO. 53118

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	101	252
				(1) 07263		Bent 4		53119

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

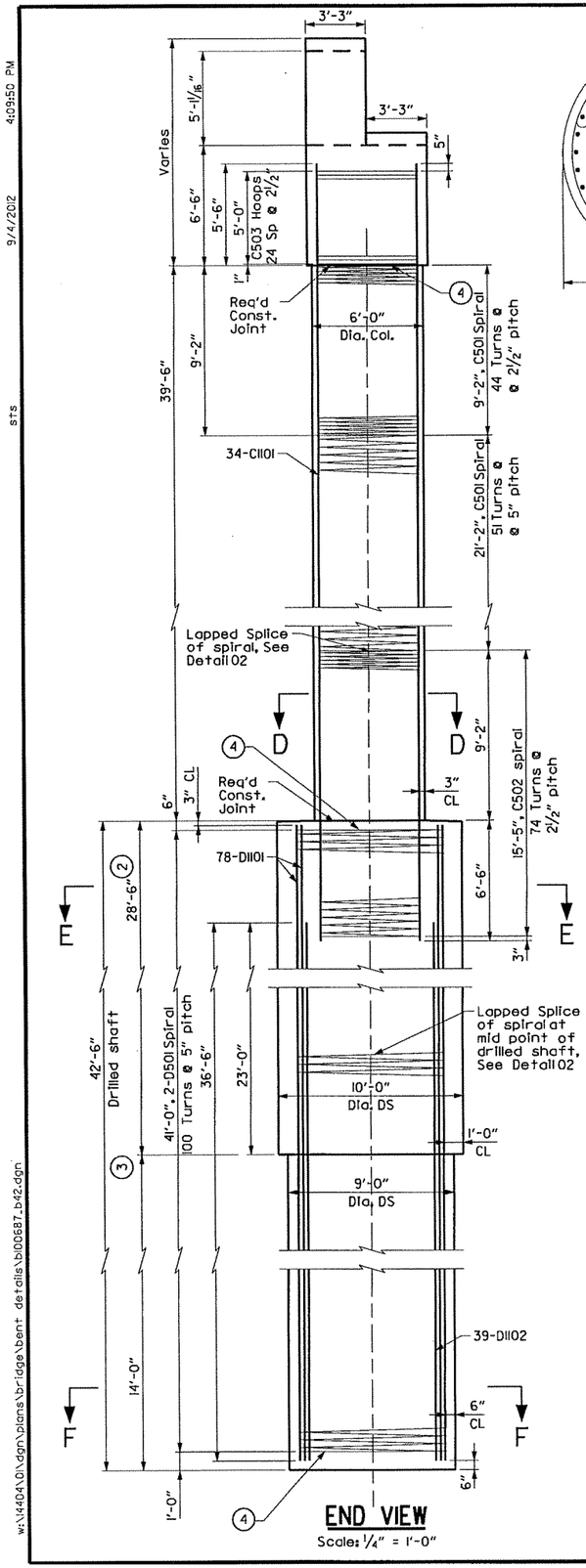
Stephen Smiley 4 Sept 2012

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

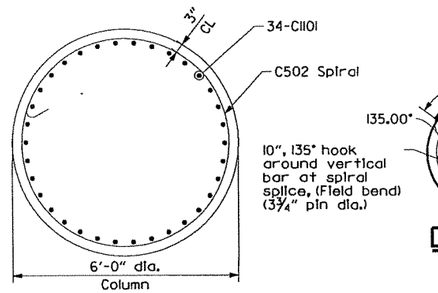
(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

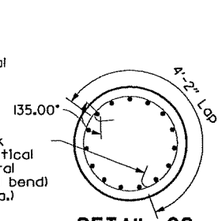
(4) End spiral reinforcing with 1½ flat turns.



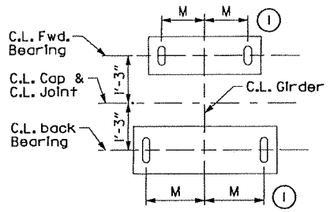
END VIEW
Scale: ¼" = 1'-0"



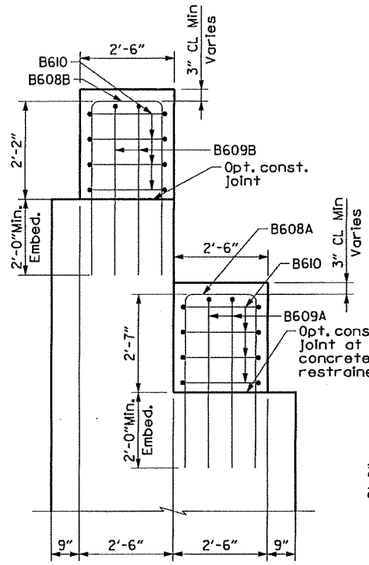
SECTION D-D
Scale: ½" = 1'-0"



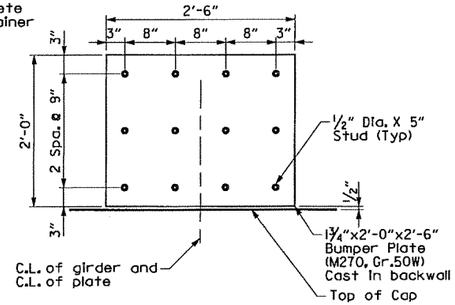
DETAIL 02
Scale: N.T.S.



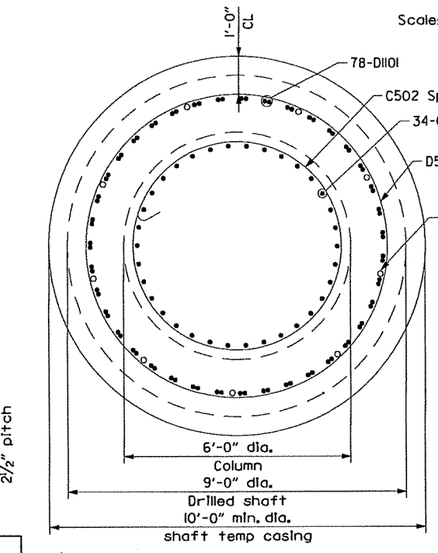
TYPICAL ANCHOR BOLT LAYOUT
Scale: ½" = 1'-0"



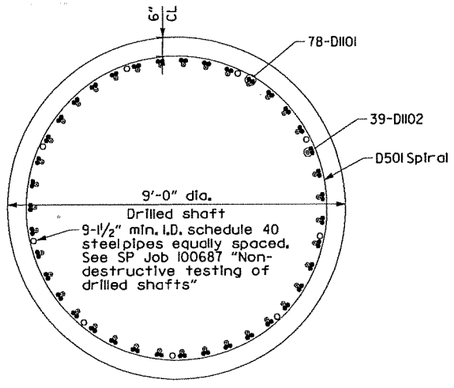
SECTION G-G
Scale: ½" = 1'-0"



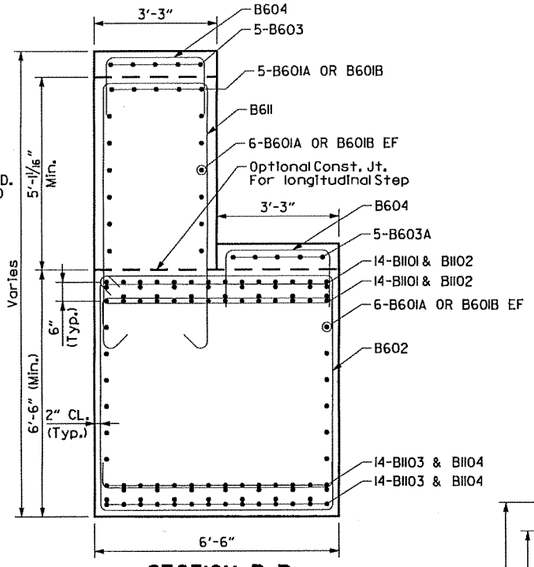
BUMPER PLATE DETAIL
Scale: N.T.S.



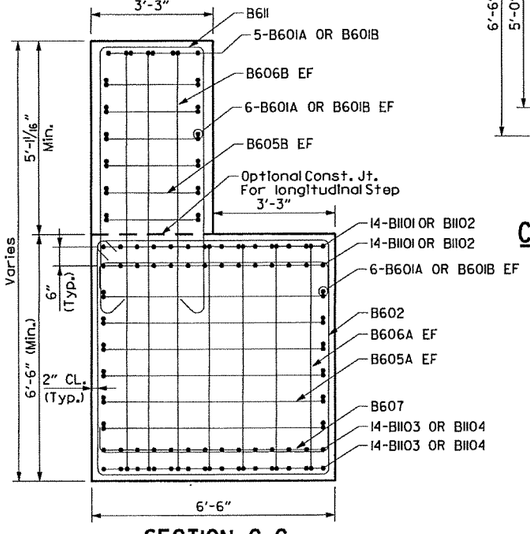
SECTION E-E
Scale: ½" = 1'-0"



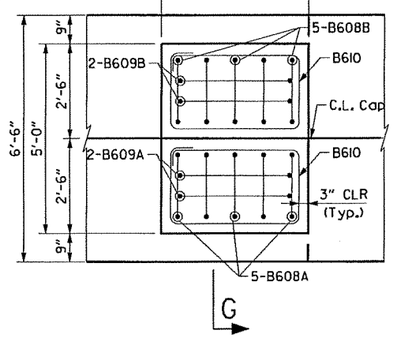
SECTION F-F
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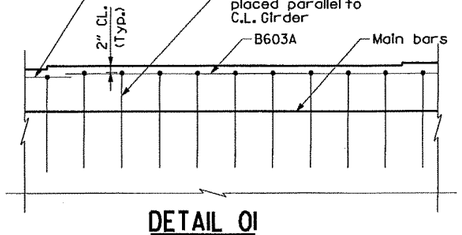
SECTION B-B
Scale: ½" = 1'-0"



SECTION C-C
Scale: ½" = 1'-0"



CONCRETE RESTRAINER DETAIL
Scale: ½" = 1'-0"



DETAIL 01
Detail 01 to be applied only at cap seat under Gird.3 to Gird.7 other bars not shown for clarity
N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENT 4
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53119

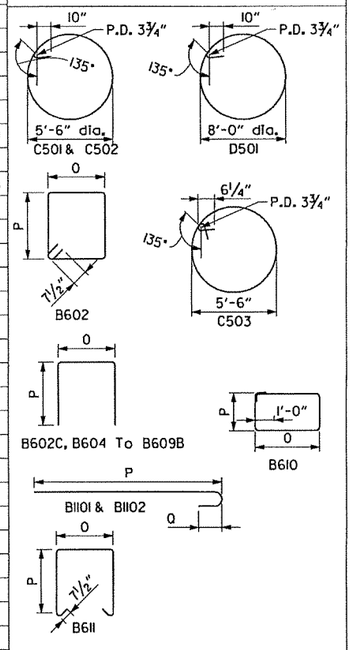
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sts

BAR LIST

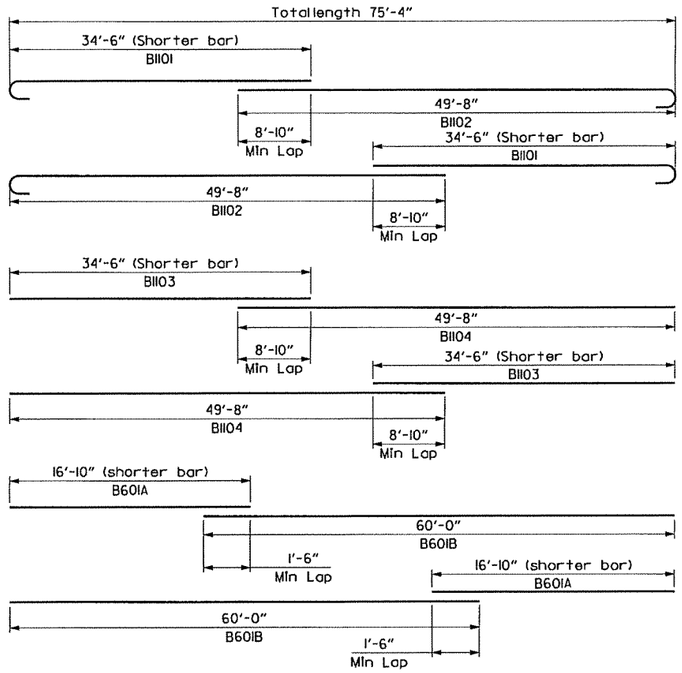
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Drilled shaft					
D501 *	10	-	-	1290'-4"	Spiral
D1101 *	390	-	-	41'-9"	Str.
D1102 *	195	-	-	36'-6"	Str.
Columns					
C501	5	-	-	1658'-3"	Spiral
C502	5	-	-	1296'-6"	Spiral
C503	125	-	-	18'-7½"	Hoops
C1101	120	-	-	51'-6"	Str.
Cap					
B601A	29	-	-	16'-10"	Str.
B601B	29	-	-	60'-0"	Str.
B602	62	6'-2"	6'-2"	25'-6"	4½"
B602C	60	6'-2"	6'-2"	18'-2"	4½"
B603A	10	-	-	22'-0"	Str.
B603B	20	-	-	11'-0"	Str.
B604	82	1'-6"	2'-11"	5'-7"	4½"
B605A	12	1'-0"	6'-0½"	7'-8½"	4½"
B605B	12	1'-0"	2'-9½"	4'-5½"	4½"
B606A	8	1'-0"	6'-0½"	7'-8½"	4½"
B606B	6	1'-0"	11'-1½"	12'-9½"	4½"
B607	52	1'-0"	6'-2"	7'-10"	4½"
B608A	40	4'-7"	1'-10½"	10'-8½"	4½"
B608B	20	4'-2"	1'-10½"	9'-10½"	4½"
B609A	16	4'-7"	3'-2"	12'-0"	4½"
B609B	8	4'-2"	3'-2"	11'-2"	4½"
B610	48	3'-5"	2'-0"	12'-0"	4½"
B611	76	7'-5"	2'-11"	18'-9"	4½"
B1101	28	34'-6"	1'-0½"	36'-0"	11¼"
B1102	28	49'-8"	1'-0½"	51'-2"	11¼"
B1103	28	-	-	34'-6"	Str.
B1104	28	-	-	49'-8"	Str.

Bending Diagrams



The dimensions shown for the bending diagrams are out-to-out of bars.

*Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	102	252
				1 07263		Bent 4		53120

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENT 4
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b43
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53120

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	103	252
				(1) 07263		Bents 5,6,8,9,11,12		53121

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

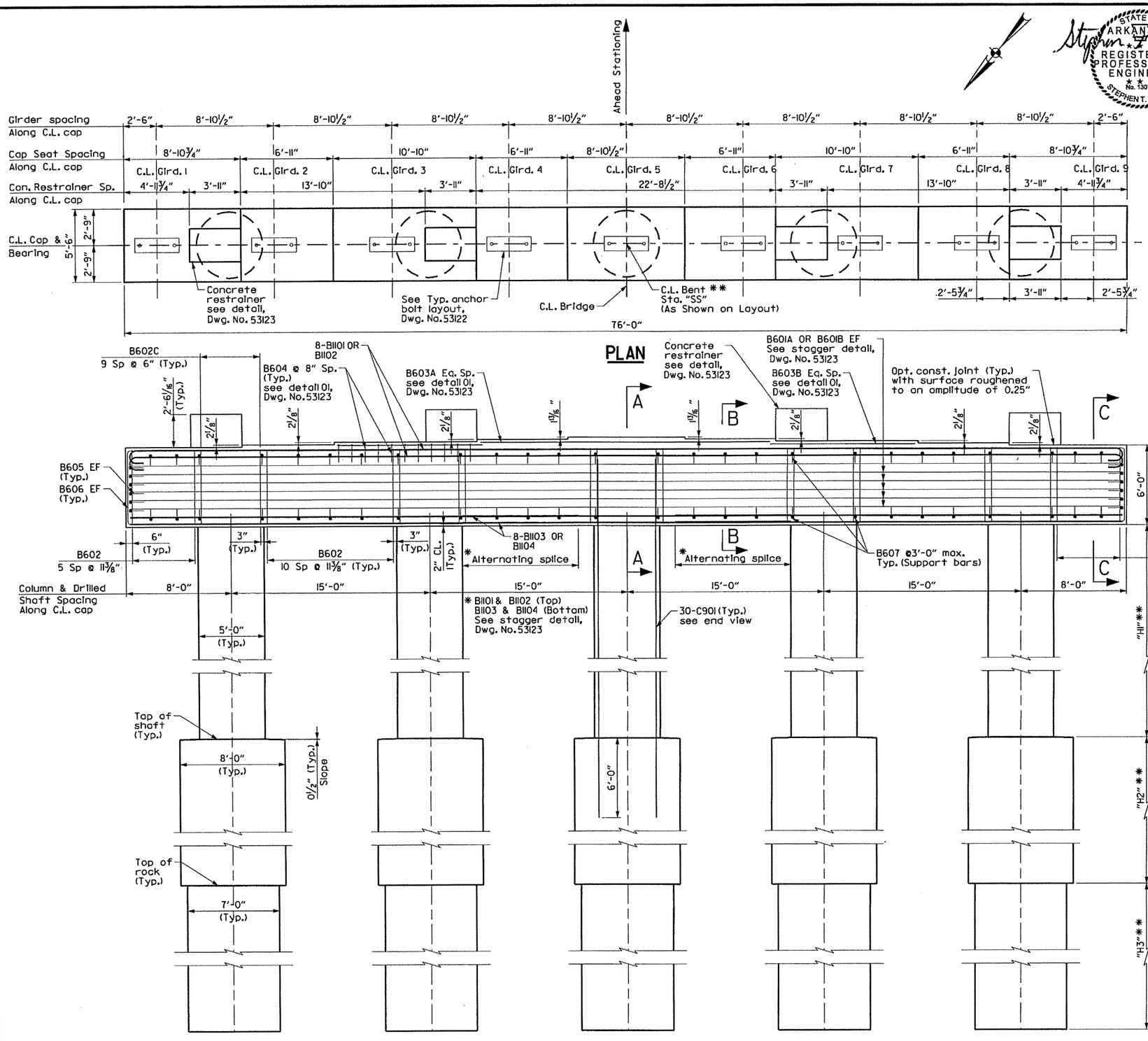
For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

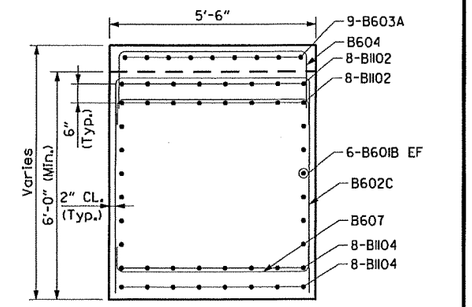
(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

(2) Minimum penetration into competent rock below temporary casing

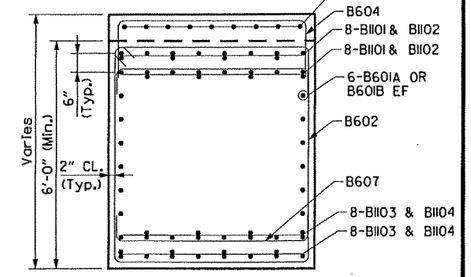
** See Table of Variables on Dwg. No. 53123



ELEVATION
Looking forward



SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENTS 5,6,8,9,11,12
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

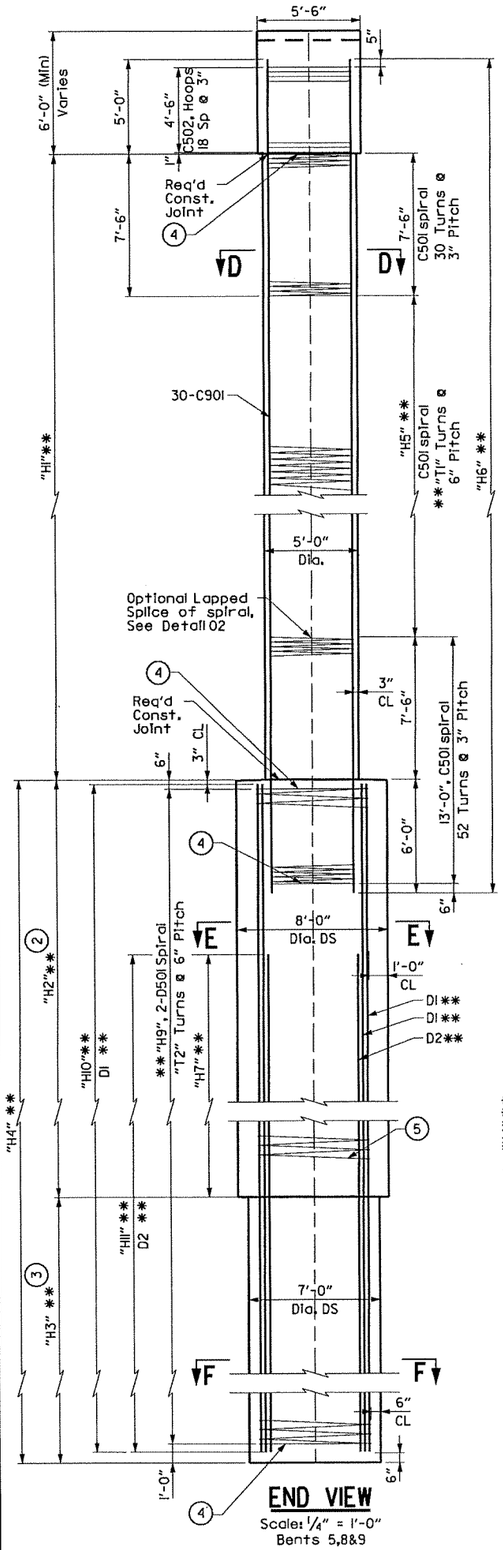
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

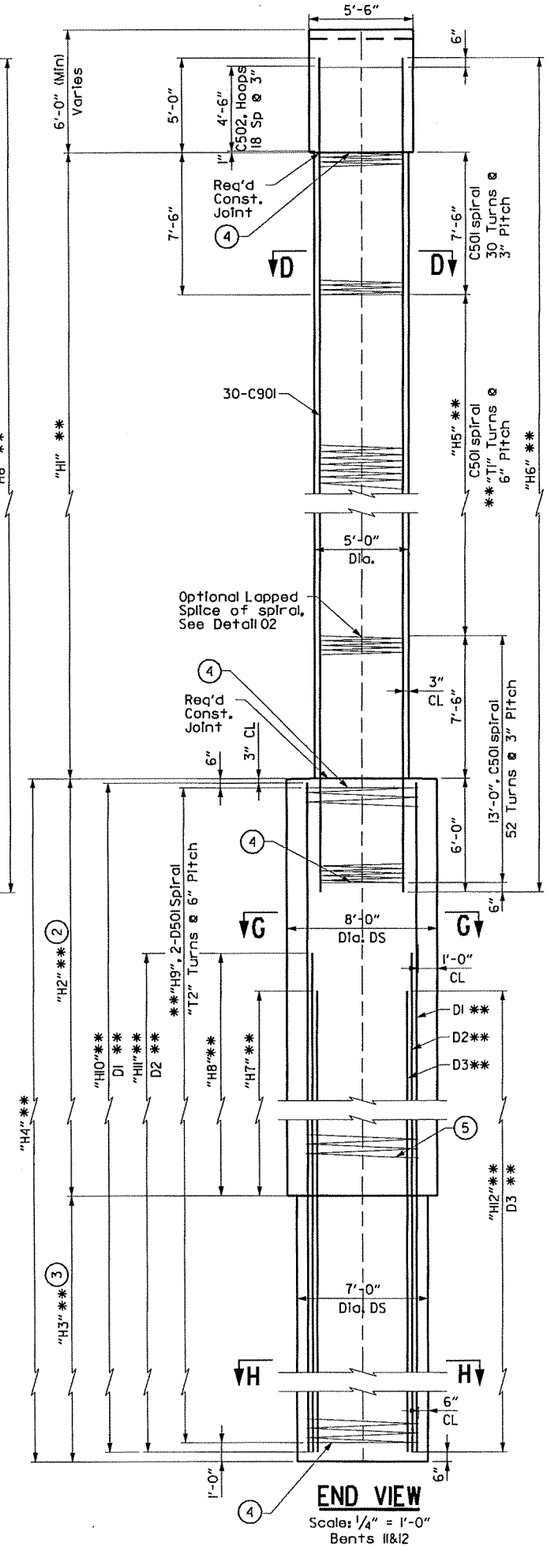
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CHECKED BY:	LK	DATE:	8/22/12	SCALE:	1/4" = 1'-0"
DESIGNED BY:	MRS	DATE:	6/28/12		

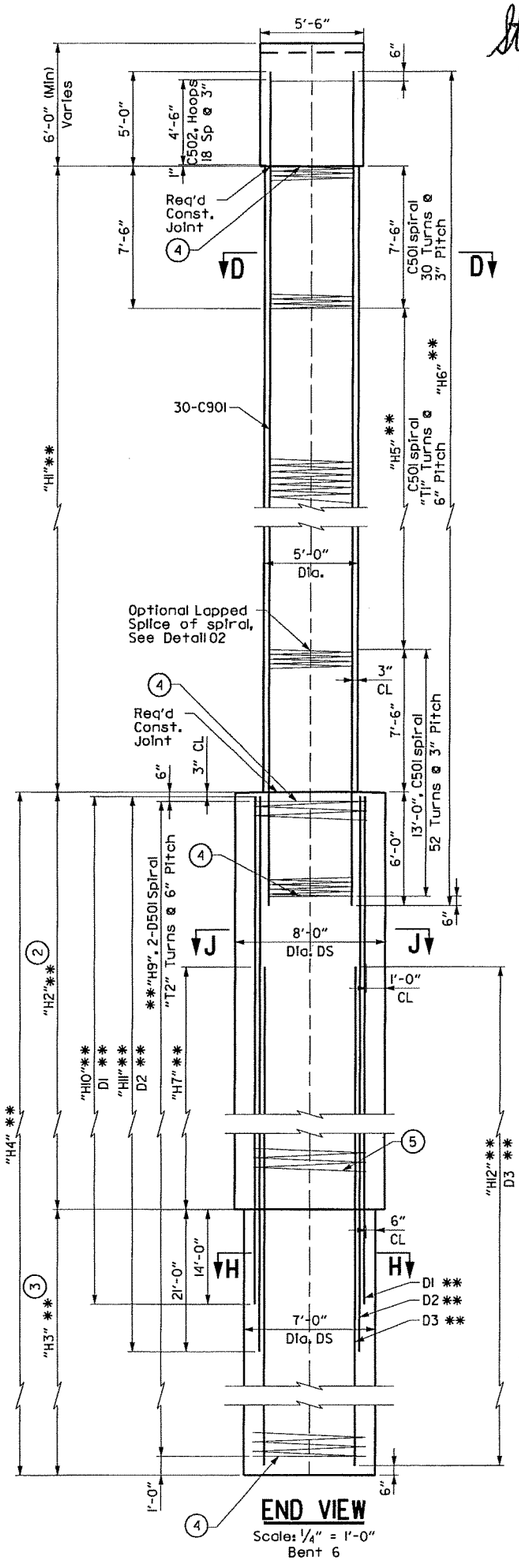
BRIDGE NO. 07263 DRAWING NO. 53121

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STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	104	252
				(1) 07263		Bents 5,6,8,9,11,12		53122

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

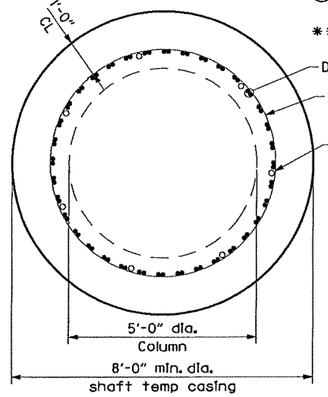
(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

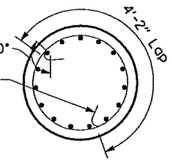
(4) End spiral reinforcing with 1½ flat turns.

(5) Lapped splice of spiral at mid point of Drilled shaft, See detail 02.

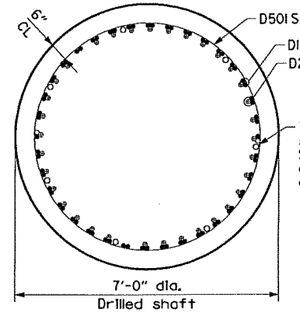
** See table of variables on Dwg. No. 53123



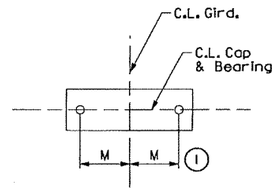
SECTION E-E
Scale: ½" = 1'-0"



DETAIL 02
Scale: N.T.S.



SECTION F-F
Scale: ½" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENTS 5,6,8,9,11&12
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b52
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

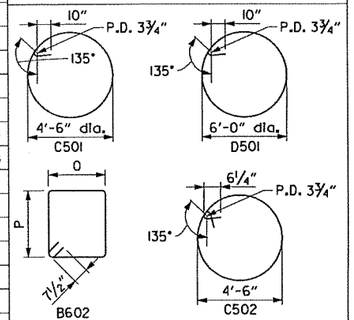
BRIDGE NO. 07263 DRAWING NO. 53122

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BAR LIST - PER BENT

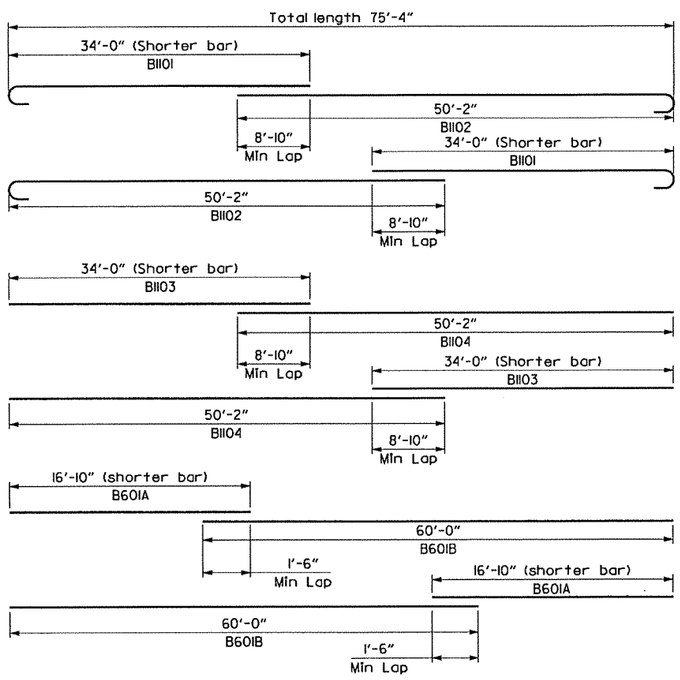
Mark	No. Req'd	P	O	Length	Pin Dia.
Drilled shaft					
D501 *	10	-	-	L1	Spiral
D1 *	N1	-	-	H10	Str.
D2 *	N2	-	-	H11	Str.
D3 *	N3	-	-	H12	Str.
Columns					
C501	5	-	-	L2	Spiral
C502	95	-	-	15'-5½"	Hoops
C901	150	-	-	H6	Str.
Cap					
B601A	12	-	-	16'-10"	Str.
B601B	12	-	-	60'-0"	Str.
B602	56	5'-8"	5'-2"	22'-6"	4½"
B602C	50	5'-8"	5'-2"	16'-2"	4½"
B603A	9	-	-	22'-0"	Str.
B603B	18	-	-	11'-0"	Str.
B604	67	1'-6"	5'-2"	7'-10"	4½"
B605	12	1'-0"	5'-0½"	6'-8½"	4½"
B606	12	1'-0"	5'-6½"	7'-2½"	4½"
B607	52	1'-0"	5'-2"	6'-10"	4½"
B608	20	4'-3"	1'-10½"	10'-0½"	4½"
B609	8	4'-3"	3'-2"	11'-4"	4½"
B610	16	3'-5"	2'-0"	12'-0"	4½"
B1101	16	34'-0"	1'-0½"	35'-6"	11¼"
B1102	16	50'-2"	1'-0½"	51'-8"	11¼"
B1103	16	-	-	34'-0"	Str.
B1104	16	-	-	50'-2"	Str.

Bending Diagrams



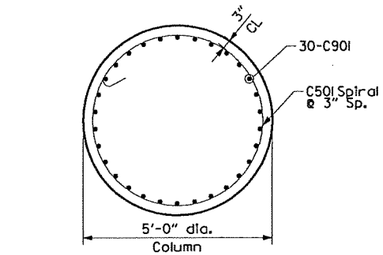
The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



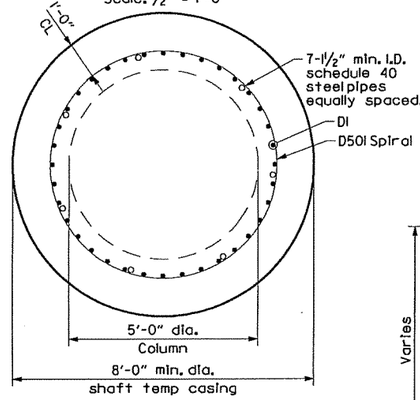
BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.



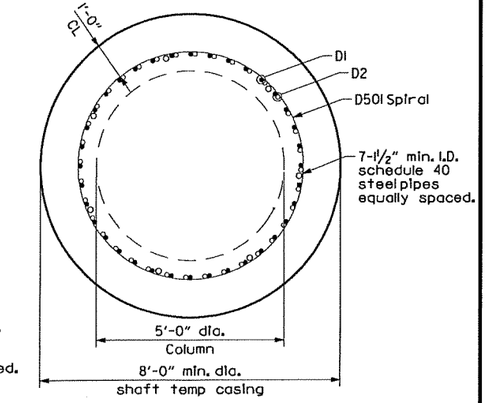
SECTION D-D

Scale: ½" = 1'-0"



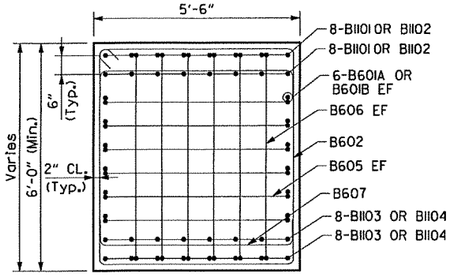
SECTION G-G

Scale: ½" = 1'-0"



SECTION J-J

Scale: ½" = 1'-0"

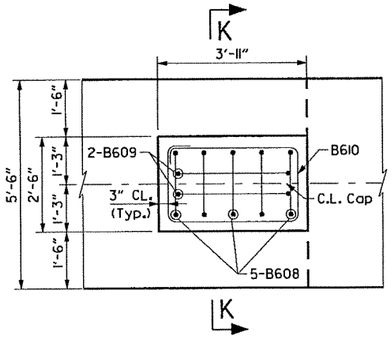


SECTION C-C

Scale: ½" = 1'-0"

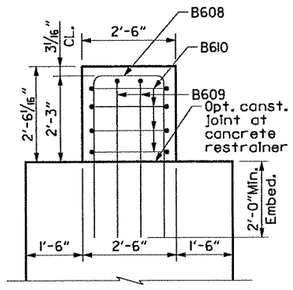
TABLE OF VARIABLES

Bent	SS	E1	E2	E3	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	D1	D2	D3	L1	L2	N1	N2	N3	T1	T2
05	142+93.00	294.31	245.81	204.31	42'-6"	30'-6"	11'-0"	41'-6"	27'-6"	53'-6"	21'-6"	-	40'-0"	40'-9"	32'-0"	-	48'-6"	50-D1101	25-D1102	-	780'-0"	1963'-4"	250	125	-	55	80
06	144+12.00	291.04	246.04	176.54	39'-0"	30'-6"	39'-0"	69'-6"	24'-0"	50'-0"	21'-0"	-	68'-0"	44'-3"	51'-3"	59'-6"	45'-0"	26-D1101	26-D1102	26-D1103	1303'-4"	865'-5"	130	130	130	48	136
08	145+98.00	285.92	245.42	199.42	34'-6"	35'-0"	11'-0"	46'-0"	19'-6"	45'-6"	20'-3"	-	44'-6"	45'-3"	30'-9"	-	40'-6"	52-D1101	26-D1102	-	873'-5"	1739'-7"	260	130	-	39	90
09	147+17.00	282.65	245.65	199.15	31'-0"	35'-6"	11'-0"	46'-6"	16'-0"	42'-0"	19'-6"	-	45'-0"	45'-9"	30'-0"	-	37'-0"	54-D1101	27-D1102	-	873'-5"	1641'-9"	270	135	-	32	90
11	149+03.00	277.54	245.54	196.54	26'-0"	38'-0"	11'-0"	49'-0"	11'-0"	37'-0"	19'-6"	34'-0"	47'-6"	48'-3"	44'-6"	30'-0"	32'-0"	29-D1101	29-D1102	29-D1103	929'-6"	1501'-11"	145	145	145	22	96
12	150+22.00	274.27	245.77	197.27	22'-6"	37'-6"	11'-0"	48'-6"	7'-6"	33'-6"	18'-6"	32'-9"	47'-0"	47'-9"	43'-3"	29'-0"	28'-6"	33-D1101	33-D1102	33-D1103	910'-10"	1404'-0"	165	165	165	15	94



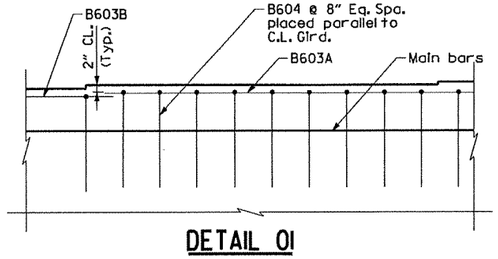
CONCRETE RESTRAINER DETAIL

Scale: ½" = 1'-0"



SECTION K-K

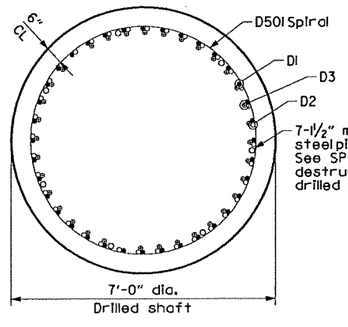
Scale: ½" = 1'-0"



DETAIL 01

Detail 01 to be applied only at cap seat under Gird.3 to Gird. 7. other bars not shown for clarity

N.T.S.



SECTION H-H

Scale: ½" = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	105	252
				(1) 07263		Bents 5,6,8,9,11,12		53123

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENTS 5,6,8,9,11&12
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b53
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53123

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9/4/2012 4:10:13 PM sts

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	106	252
				(1) 07263		Bents 7 & 10		53124

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

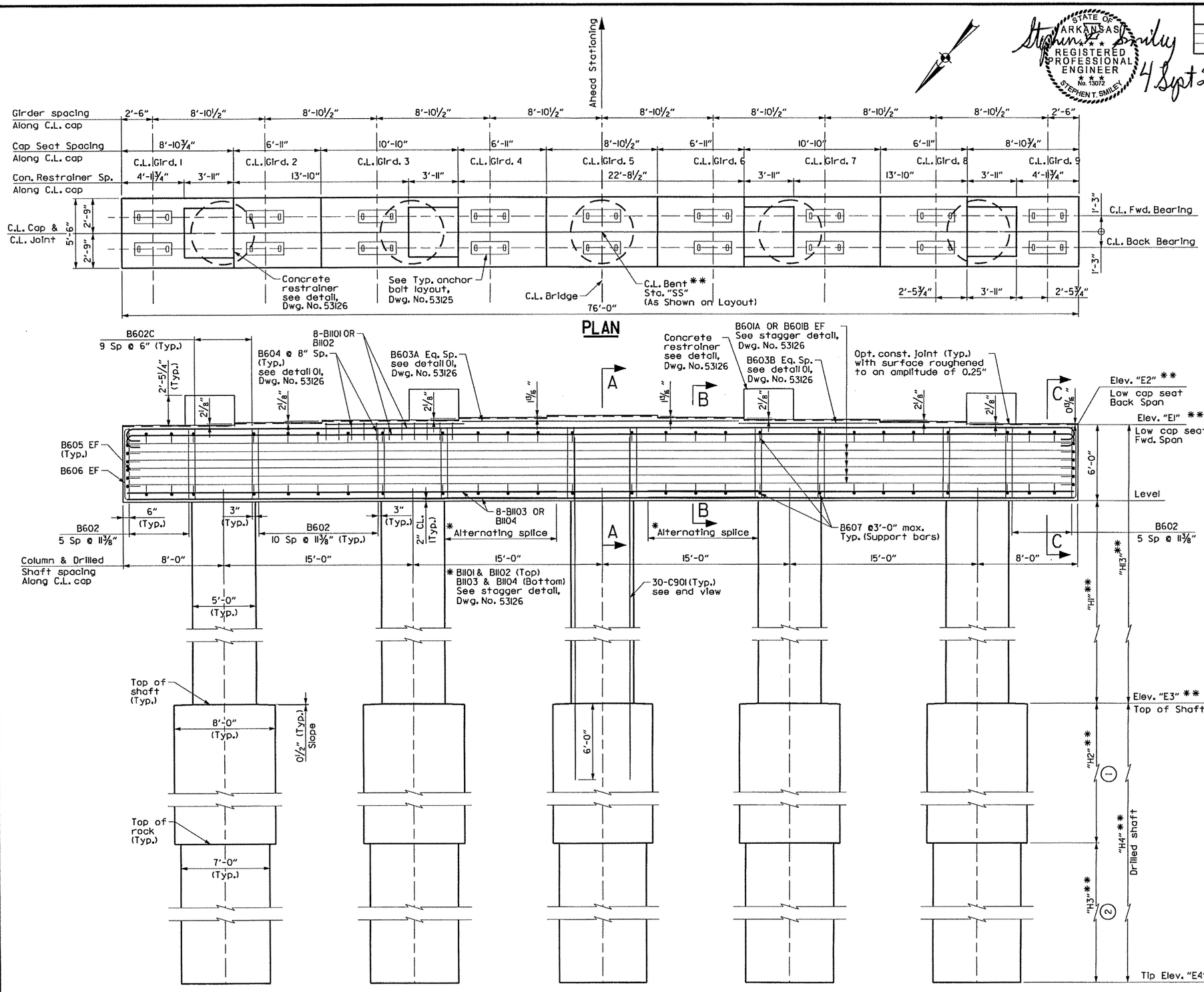
For general notes, see Dwg. No. 53102

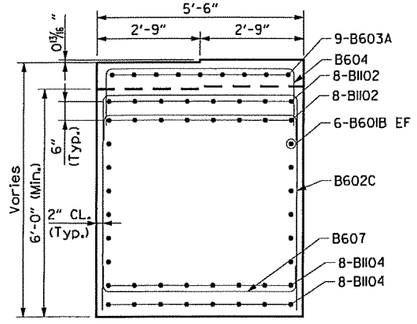
Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

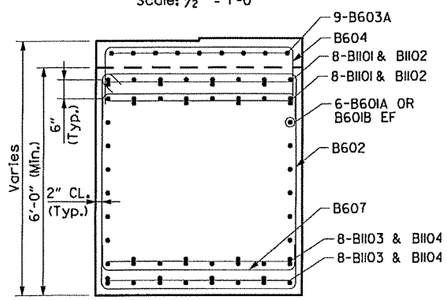
(2) Minimum penetration into competent rock below temporary casing

** See Table of Variables on Dwg. No. 53126





SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENTS 7 & 10
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b71
SCALE: ¼" = 1'-0"

BRIDGE NO. 07263 DRAWING NO. 53124

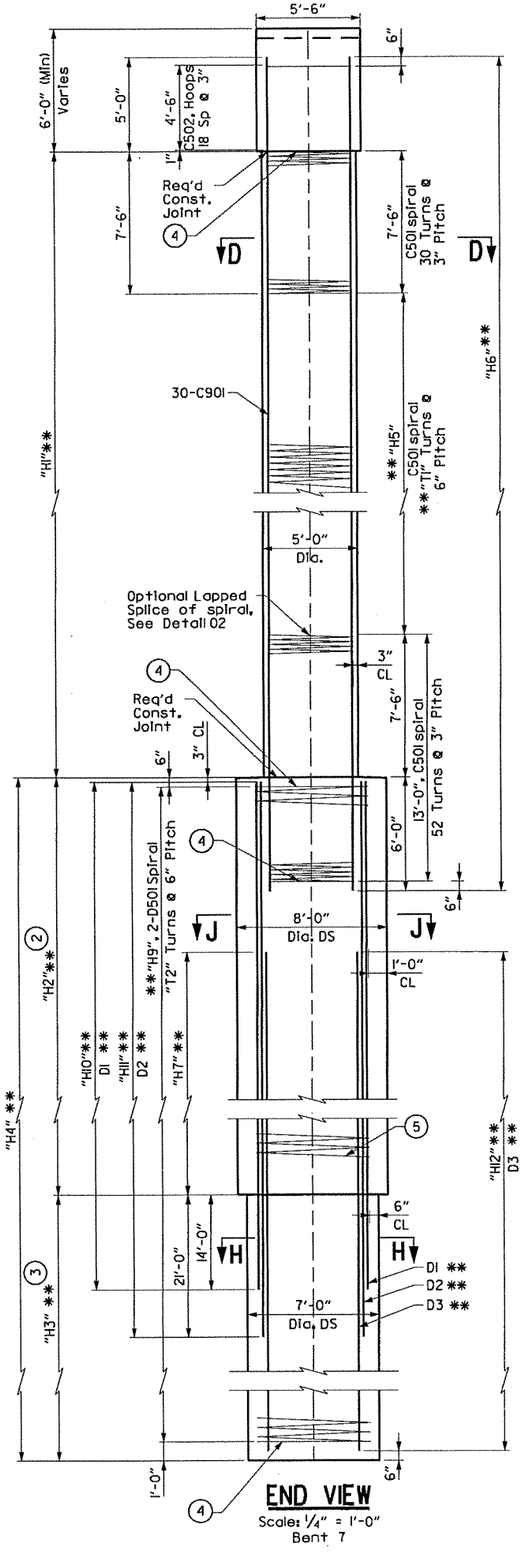
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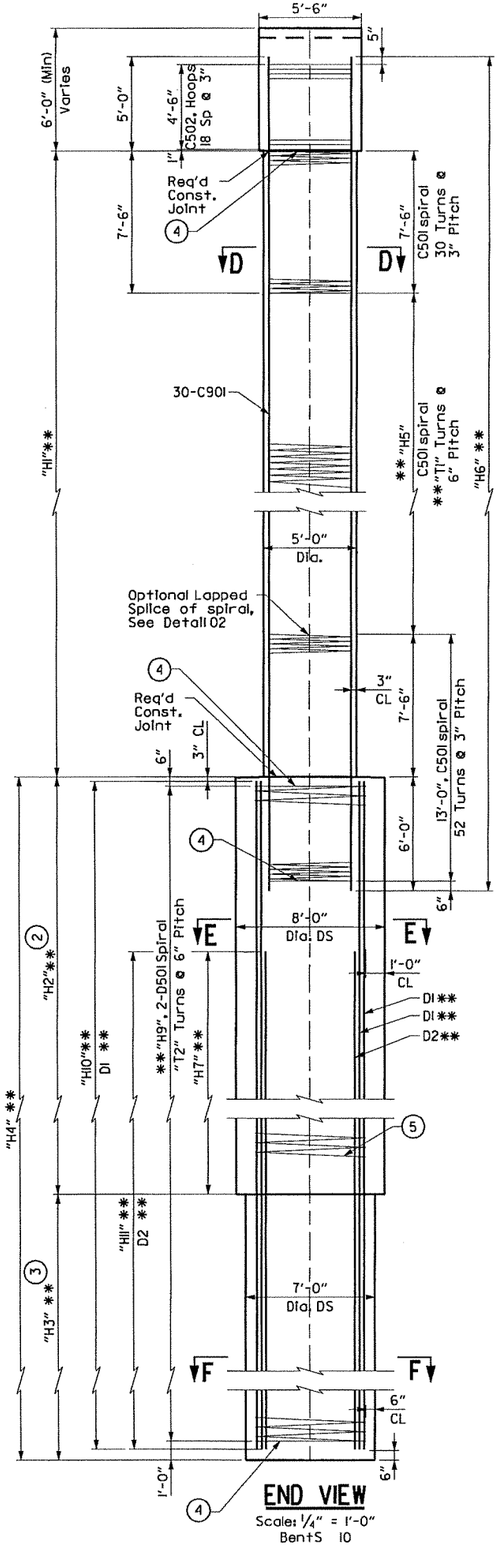
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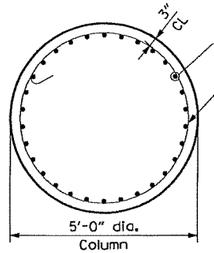
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				6	ARK.			
				JOB NO.		100687	107	252
				1 07263		Bents 7 & 10		53125

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

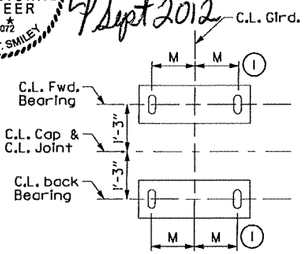
4 Sept 2012







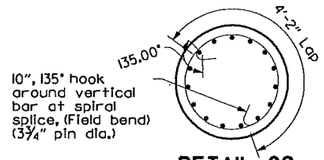
SECTION D-D
Scale: 1/2" = 1'-0"



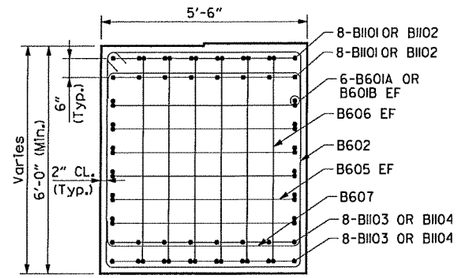
TYPICAL ANCHOR BOLT LAYOUT
Scale: 1/2" = 1'-0"

1. For details and dimension M of elastomeric bearing, see Dwg. No. 53162
2. The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.
3. Minimum penetration into competent rock below cased drilled shaft.
4. End spiral reinforcing with 1½ flat turns.
5. Lapped splice of spiral at mid point of Drilled shaft, See detail 02.

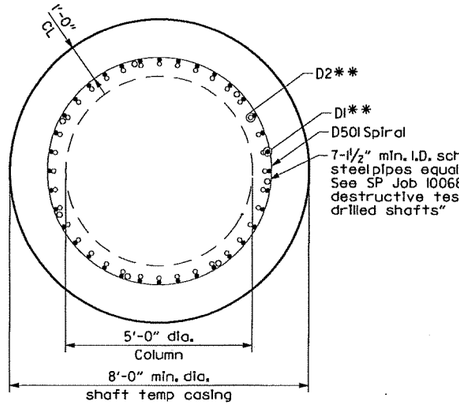
** See table of variables on Dwg. No. 53126



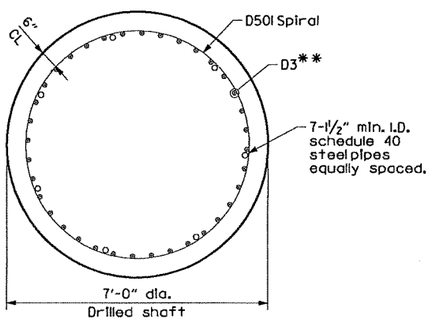
DETAIL 02
Scale: N.T.S.



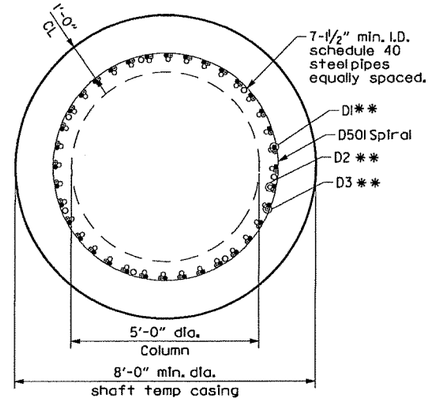
SECTION C-C
Scale: 1/2" = 1'-0"



SECTION E-E
Scale: 1/2" = 1'-0"



SECTION F-F
Scale: 1/2" = 1'-0"



SECTION G-G
Scale: 1/2" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENTS 7 & 10
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53125

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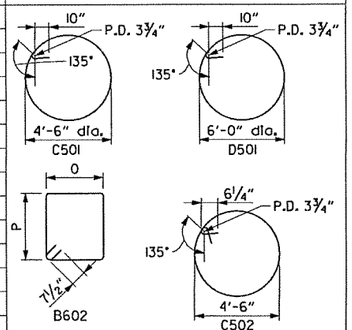
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	108	252
				(1) 07263		Bents 7 & 10		53126

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

BAR LIST - PER BENT

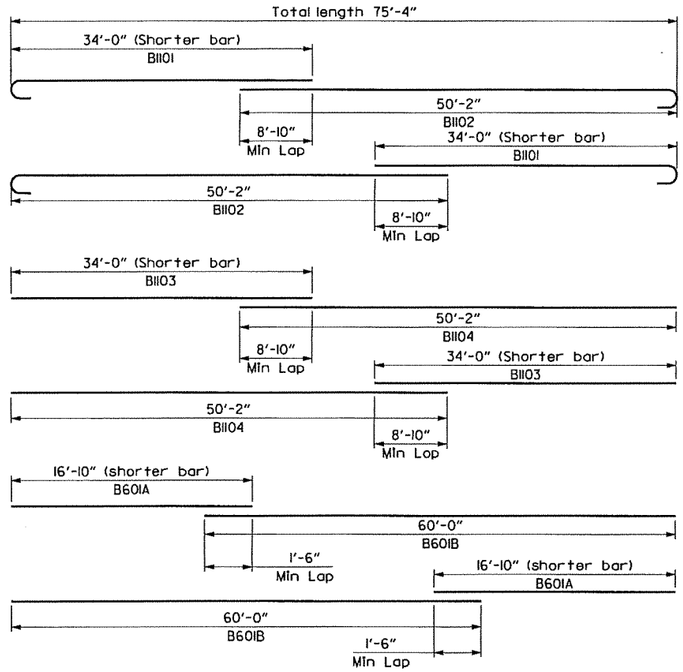
Mark	No. Req'd	P	O	Length	Pin Dia.
Drilled shaft					
D501 *	10	-	-	L1	Spiral
D1 *	N1	-	-	H10	Str.
D2 *	N2	-	-	H11	Str.
D3 *	N3	-	-	H12	Str.
Columns					
C501	5	-	-	L2	Spiral
C502	95	-	-	15'-5½"	Hoops
C901	150	-	-	H6	Str.
Cap					
B601A	12	-	-	16'-10"	Str.
B601B	12	-	-	60'-0"	Str.
B602	56	5'-8"	5'-2"	22'-6"	4½"
B602C	50	5'-8"	5'-2"	16'-2"	4½"
B603A	9	-	-	22'-0"	Str.
B603B	18	-	-	11'-0"	Str.
B604	67	1'-6"	5'-2"	7'-10"	4½"
B605	12	1'-0"	5'-0½"	6'-8½"	4½"
B606	12	1'-0"	5'-6½"	7'-2½"	4½"
B607	52	1'-0"	5'-2"	6'-10"	4½"
B608	16	4'-3"	3'-3½"	11'-5½"	4½"
B609	8	4'-3"	3'-2"	11'-4"	4½"
B610	16	3'-5"	3'-5"	14'-10"	4½"
B1101	16	34'-0"	1'-0½"	35'-6"	11¼"
B1102	16	50'-2"	1'-0½"	51'-8"	11¼"
B1103	16	-	-	34'-0"	Str.
B1104	16	-	-	50'-2"	Str.

Bending Diagrams



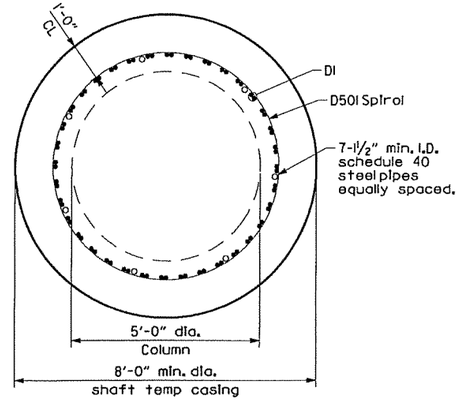
The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



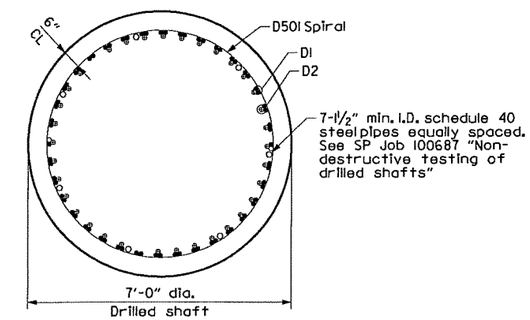
BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.



SECTION H-H

Scale: ½" = 1'-0"

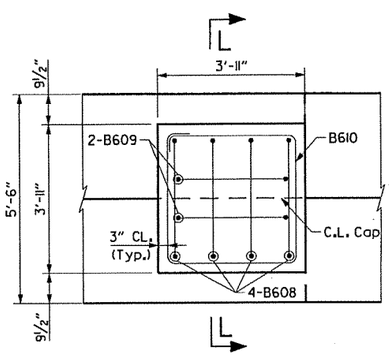


SECTION J-J

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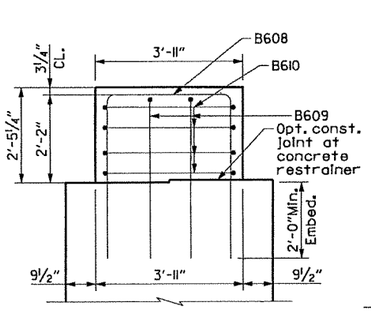
TABLE OF VARIABLES

Bent	SS	E1	E2	E3	E4	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	D1	D2	D3	L1	L2	N1	N2	N3	T1	T2
07	145+05.00	288.51	288.58	246.01	175.51	36'-6"	32'-6"	38'-0"	70'-6"	21'-6"	47'-6"	21'-3"	-	69'-0"	46'-3"	53'-3"	58'-9"	42'-6"	27-D1101	27-D1102	27-D1103	1322'-1"	1795'-7"	135	135	135	43	138
10	148+10.00	280.13	280.20	245.63	198.13	28'-6"	36'-6"	11'-0"	47'-6"	13'-6"	39'-6"	19'-6"	-	46'-0"	46'-9"	30'-0"	-	34'-6"	56-D1101	28-D1102	-	892'-1"	1571'-10"	280	140	-	27	92



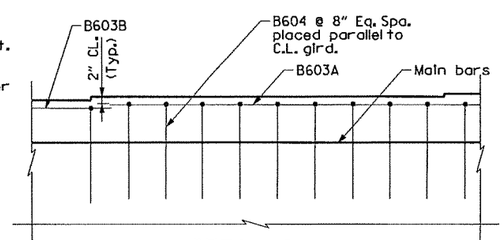
CONCRETE RESTRAINER DETAIL

Scale: ½" = 1'-0"



SECTION L-L

Scale: ½" = 1'-0"



DETAIL 01

Detail 01 to be applied only at cap seat under Girder 3 to Girder 7. other bars not shown for clarity

N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENTS 7 & 10
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53126

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	109	252
				(1) 07263		Bents 13, 16 & 19		53127

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

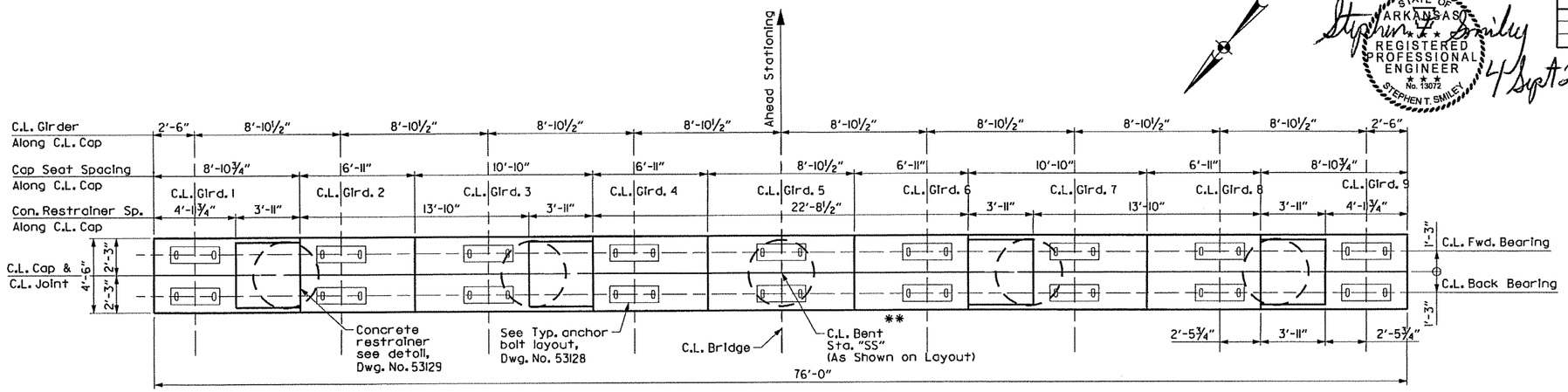
For general notes, see Dwg. No. 53102

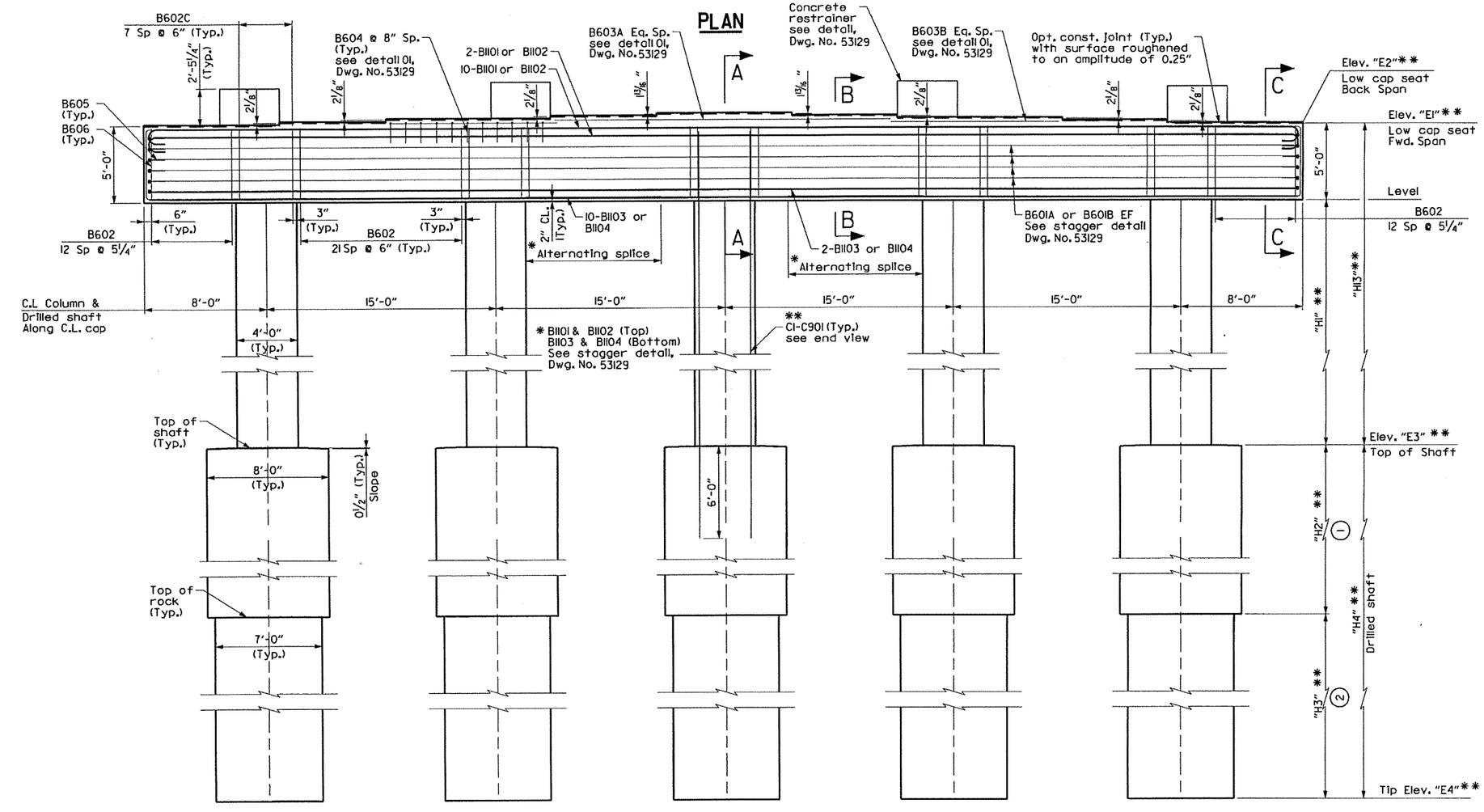
Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

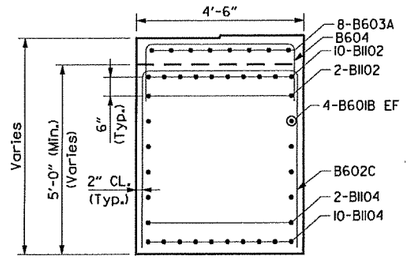
(2) Minimum penetration into competent rock below temporary casing

** See Table of Variables on Dwg. No. 53129

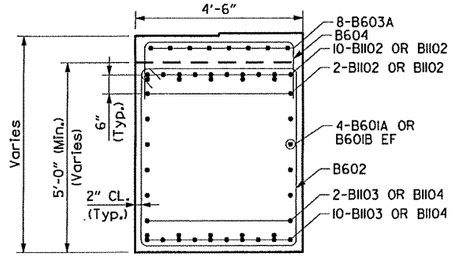




ELEVATION
Looking forward



SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

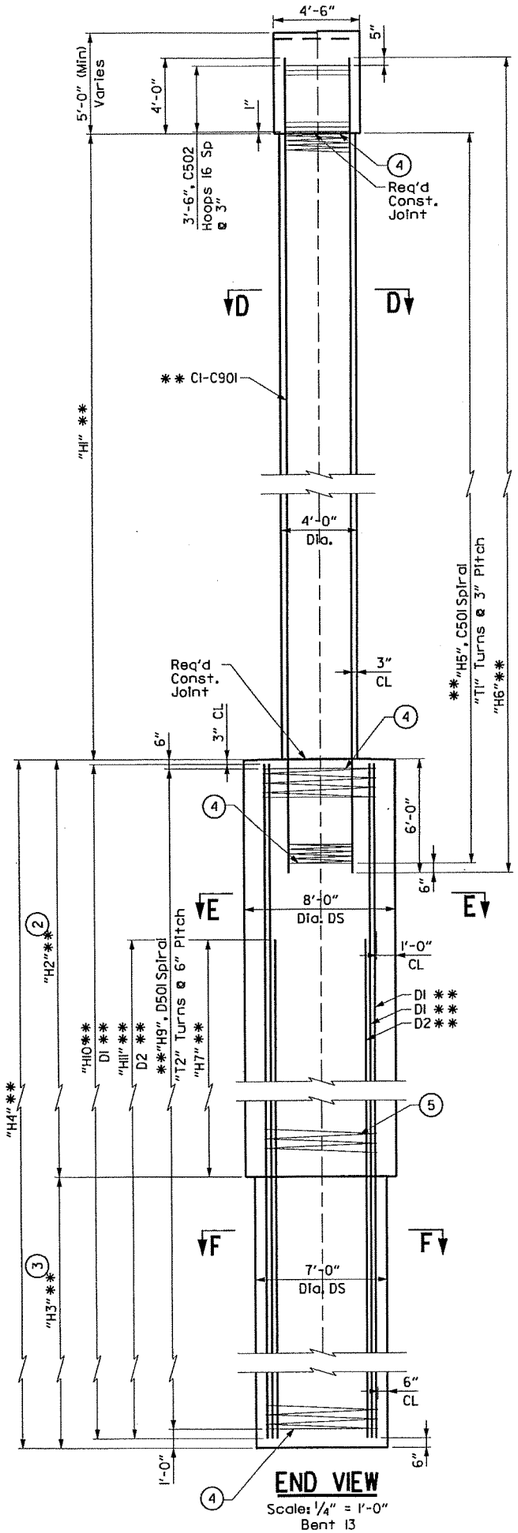
SHEET 1 OF 3
DETAILS OF BENTS 13, 16 & 19
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

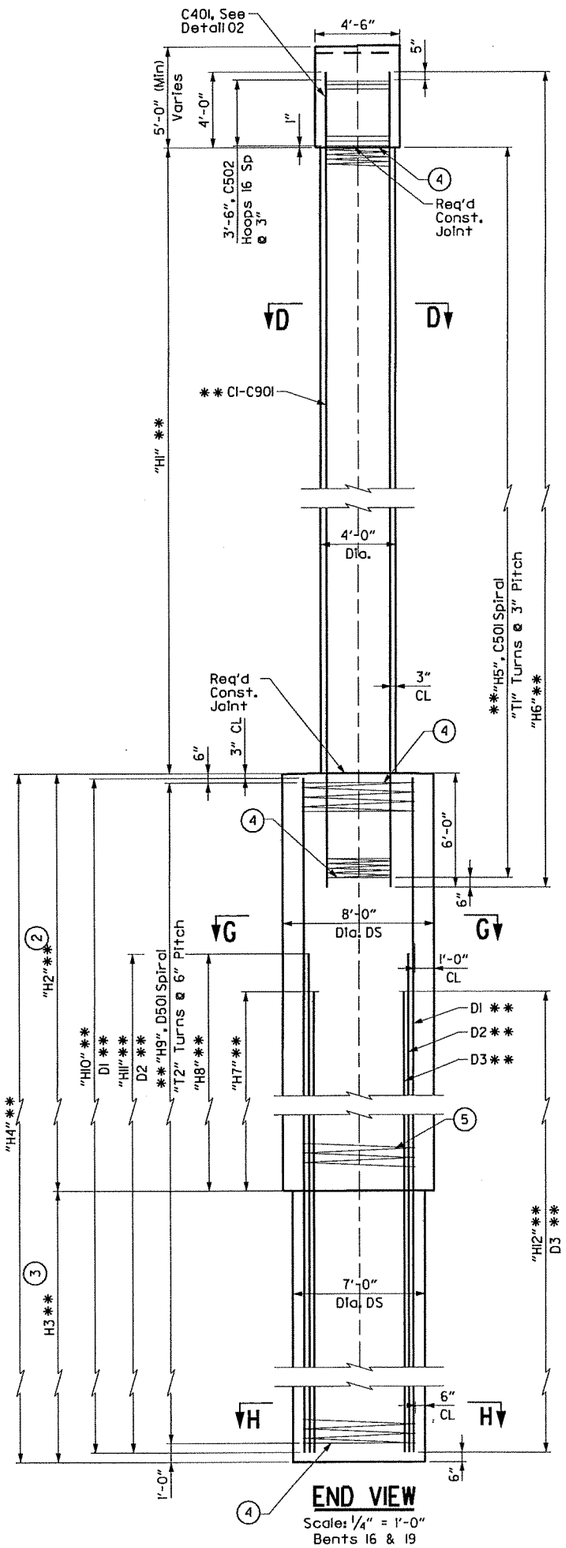
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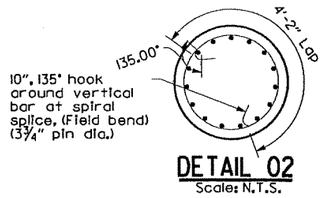
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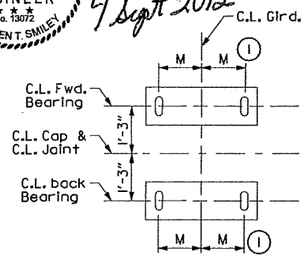
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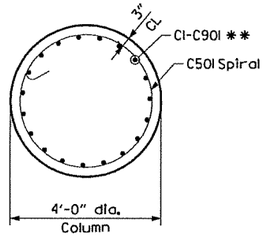




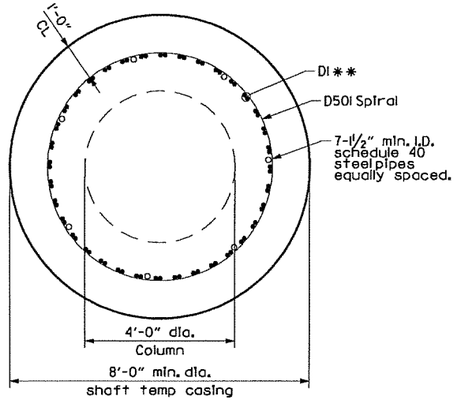
DETAIL 02
Scale: N.T.S.



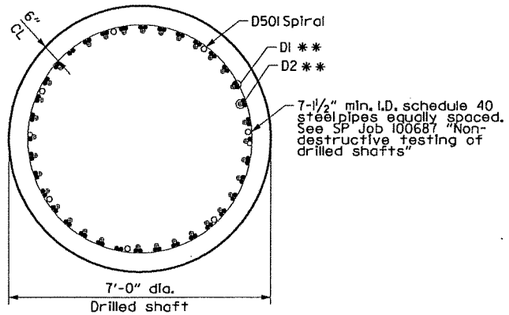
TYPICAL ANCHOR BOLT LAYOUT
Scale: 1/2" = 1'-0"



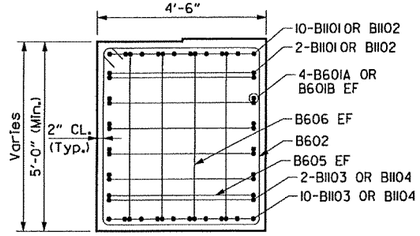
SECTION D-D
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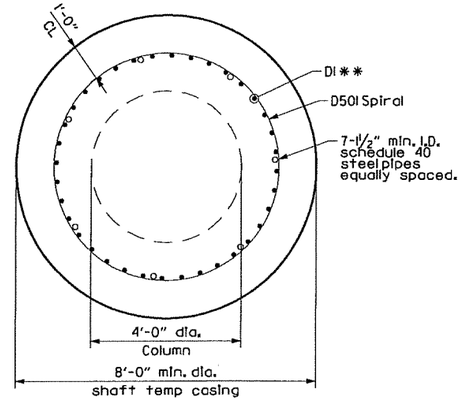
SECTION E-E
Scale: 1/2" = 1'-0"



SECTION F-F
Scale: 1/2" = 1'-0"



SECTION C-C
Scale: 1/2" = 1'-0"



SECTION G-G
Scale: 1/2" = 1'-0"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	110	252
				(1) 07263		Bents 13, 16 & 19		53128

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4th Sept 2012

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

(4) End spiral reinforcing with 1½ flat turns.

(5) Optional splice of spiral at mid point of Drilled shaft. See detail 02.

** See table of variables on Dwg. No. 53129

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENTS 13, 16 & 19
BRIDGE OVER BLACK RIVER

BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b132
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53128

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	III	252
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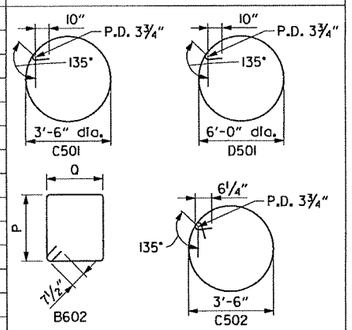
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012

BAR LIST - PER BENT

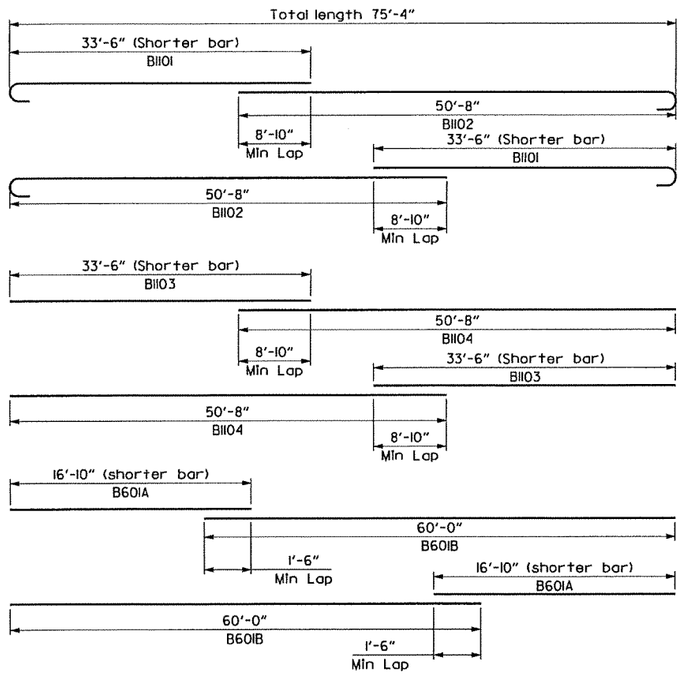
Mark	No. Req'd	P	Q	Length	Pin Dia.
Drilled shaft					
D501 *	5	-	-	L1	Spiral
D1 *	N1	-	-	H10	Str.
D2 *	N2	-	-	H11	Str.
D3 *	N3	-	-	H12	Str.
Columns					
C501	5	-	-	L2	Spiral
C502	85	-	-	12'-4"	Hoops
C901	N4	-	-	H6	Str.
Cap					
B601A	8	-	-	16'-10"	Str.
B601B	8	-	-	60'-0"	Str.
B602	114	4'-8"	4'-2"	18'-6"	4½"
B602C	40	4'-8"	4'-2"	13'-2"	4½"
B603A	8	-	-	22'-0"	Str.
B603B	16	-	-	11'-0"	Str.
B604	67	1'-6"	4'-2"	6'-10"	4½"
B605	12	1'-0"	4'-0½"	5'-8½"	4½"
B606	8	1'-0"	4'-6½"	6'-2½"	4½"
B608	16	4'-2"	3'-3½"	11'-3½"	4½"
B609	8	4'-2"	3'-2"	11'-2"	4½"
B610	16	3'-5"	3'-5"	14'-10"	4½"
B1101	12	33'-6"	1'-0½"	35'-0"	11¼"
B1102	12	50'-8"	1'-0½"	52'-2"	11¼"
B1103	12	-	-	33'-6"	Str.
B1104	12	-	-	50'-8"	Str.

Bending Diagrams



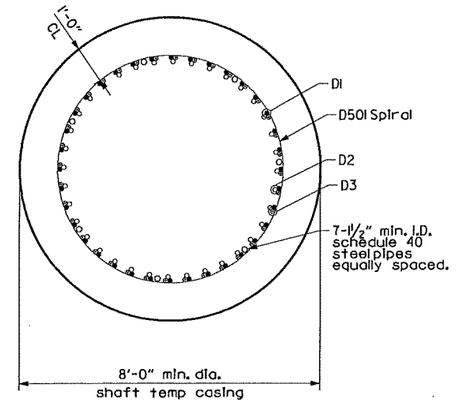
The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

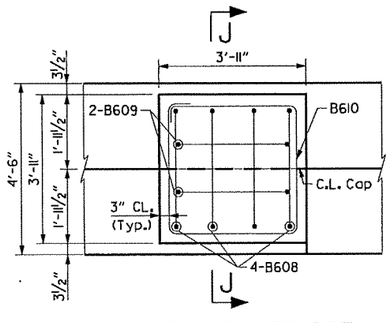


SECTION H-H

Scale: ½" = 1'-0"

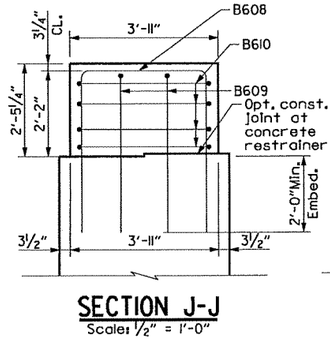
TABLE OF VARIABLES

Bent	SS	E1	E2	E3	E4	C1	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	D1	D2	D3	L1	L2	N1	N2	N3	N4	T1	T2
13	151+15.00	271.97	272.03	245.97	197.97	22	21'-0"	37'-0"	11'-0"	48'-0"	26'-6"	31'-0"	20'-0"	-	46'-6"	47'-3"	30'-6"	-	26'-0"	44-D1101	22-D1102	-	1796'-7"	1183'-1"	220	110	-	110	106	93
16	154+20.00	266.80	266.83	245.80	198.30	28	16'-0"	36'-6"	11'-0"	47'-6"	21'-6"	26'-0"	19'-0"	33'-6"	46'-0"	46'-9"	44'-0"	29'-6"	21'-0"	31-D1101	31-D1102	31-D1103	1777'-10"	966'-5"	155	155	155	140	86	92
19	157+25.00	265.16	265.17	246.16	191.66	22	14'-0"	43'-6"	11'-0"	54'-6"	23'-0"	24'-0"	19'-9"	34'-9"	53'-0"	53'-9"	45'-3"	30'-3"	19'-0"	30-D1101	30-D1102	30-D1103	2039'-7"	1031'-5"	150	150	150	110	92	106



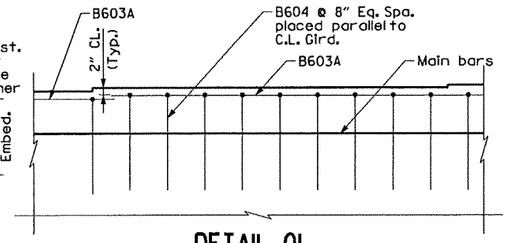
CONCRETE RESTRAINER DETAIL

Scale: ½" = 1'-0"



SECTION J-J

Scale: ½" = 1'-0"



DETAIL 01

Detail 01 to be applied only at cap seat under Gird. 3 to Gird. 7. other bars not shown for clarity

N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENTS 13, 16 & 19
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b133
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53129

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	112	252
				(1) 07263		Bents 14,15,17,18,20,21		53130

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

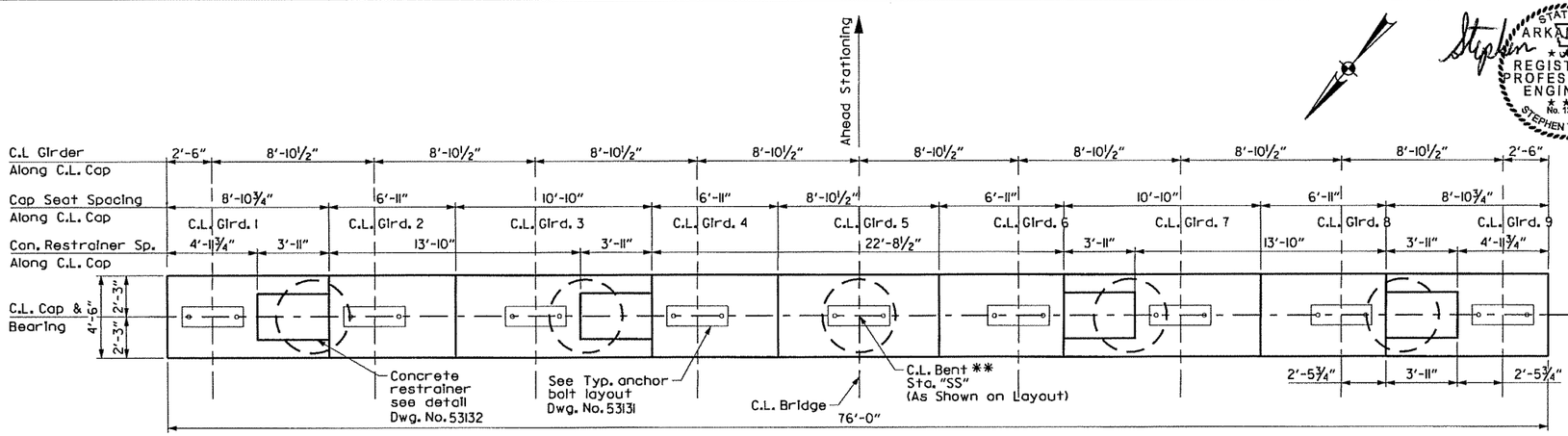
For general notes, see Dwg. No. 53102

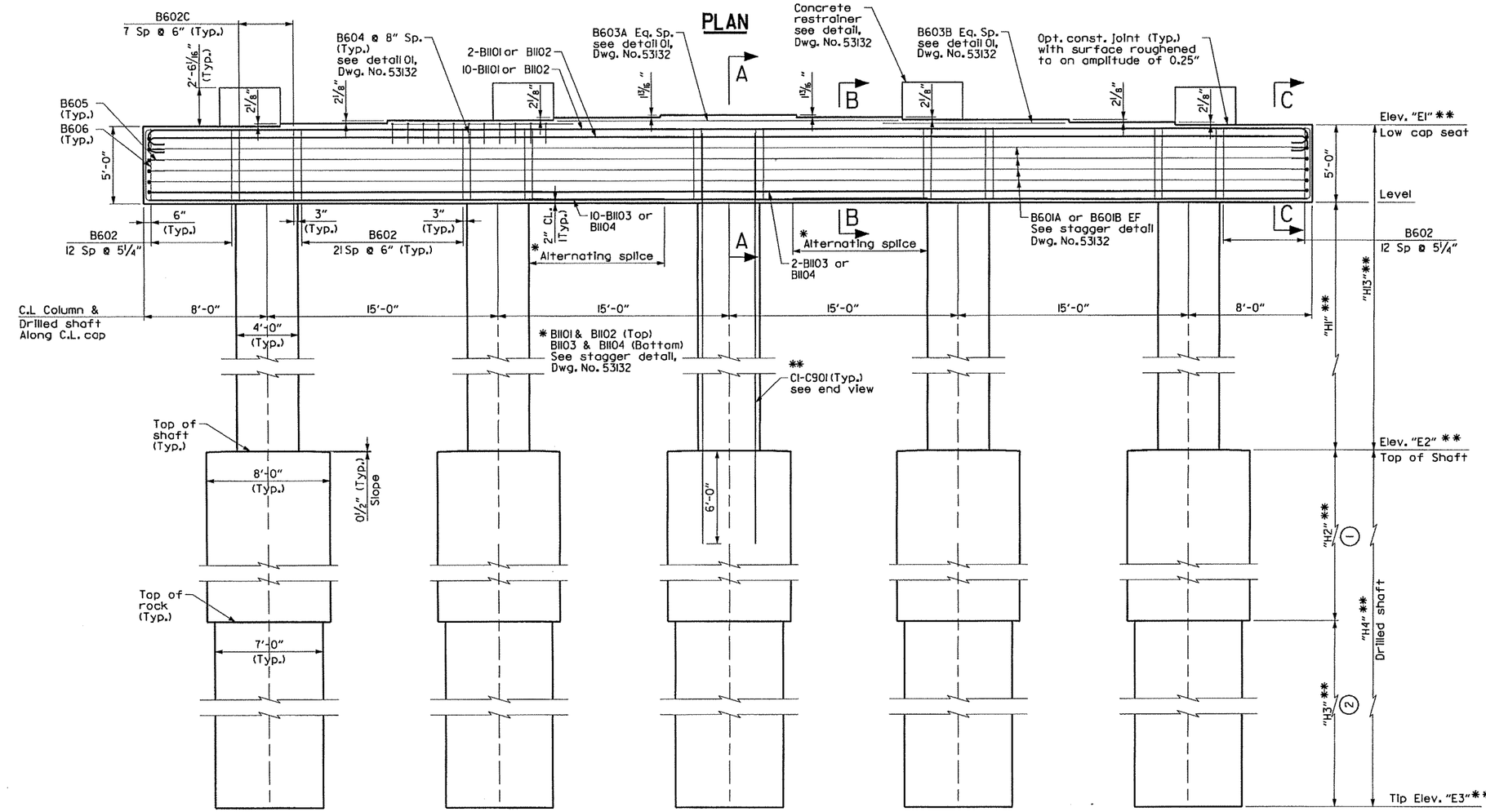
Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

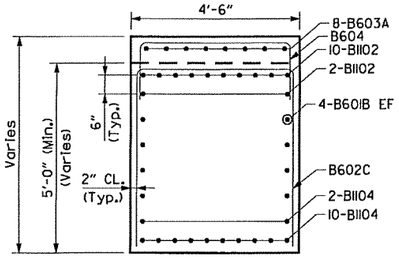
(2) Minimum penetration into competent rock below temporary casing

** See Table of Variables on Dwg. No. 53132

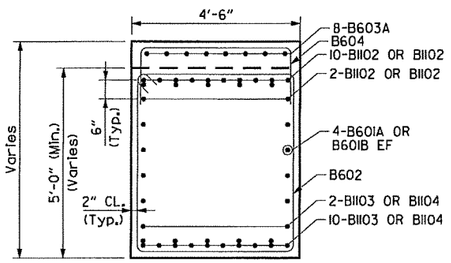




ELEVATION
Looking forward



SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF BENTS 14, 15, 17, 18, 20 & 21
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b141
SCALE: ¼" = 1'-0"

BRIDGE NO. 07263 DRAWING NO. 53130

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9/4/2012
sts

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	113	252
				(1) 07263		Bents 14,15,17,18,20,21		53131

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

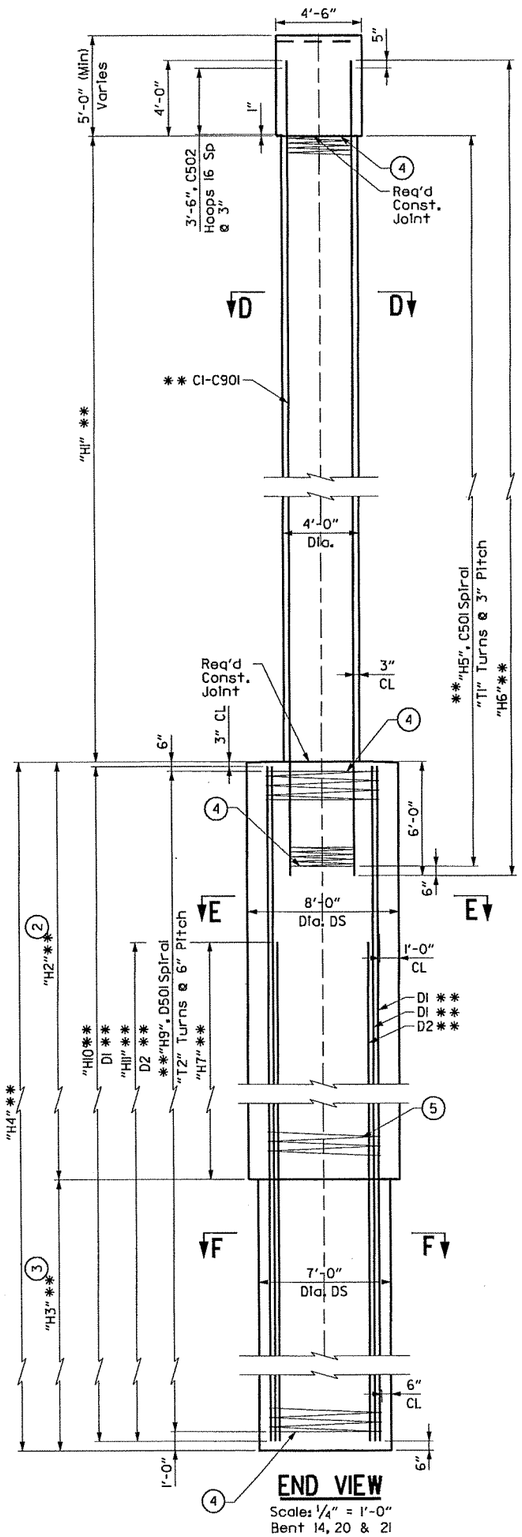
(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

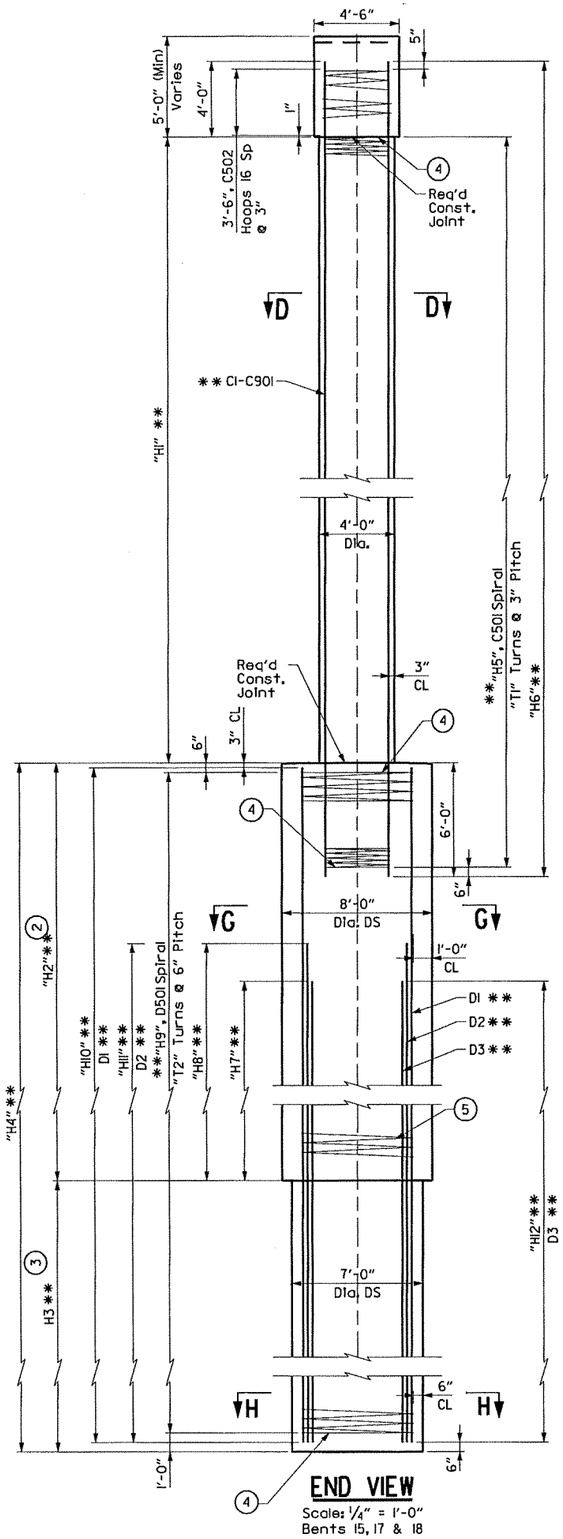
(4) End spiral reinforcing with 1½ flat turns.

(5) Optional splice of spiral at mid point of Drilled shaft, See detail 02.

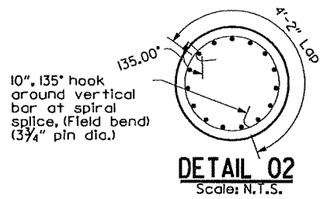
** See table of variables on Dwg. No. 53132



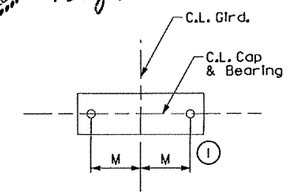
END VIEW
Scale: ¼" = 1'-0"
Bent 14, 20 & 21



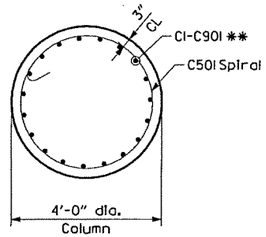
END VIEW
Scale: ¼" = 1'-0"
Bents 15, 17 & 18



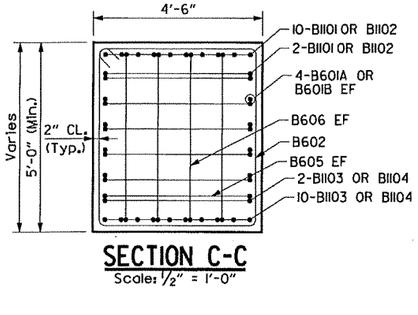
DETAIL 02
Scale: N.T.S.



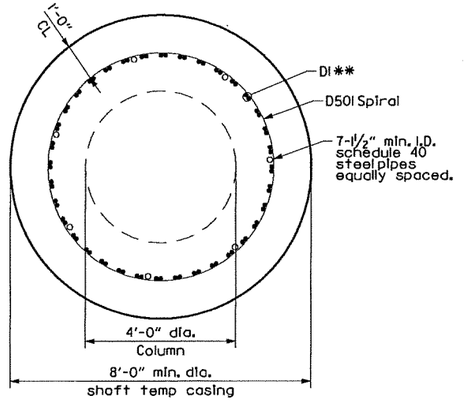
TYPICAL ANCHOR BOLT LAYOUT
Scale: ½" = 1'-0"



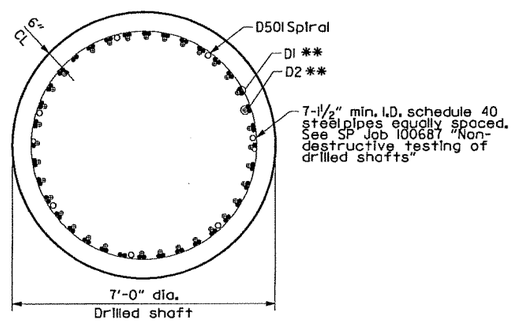
SECTION D-D
Scale: ½" = 1'-0"



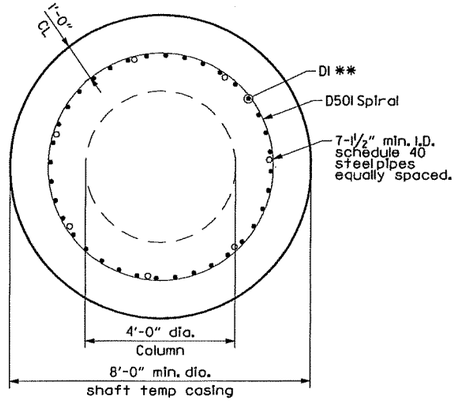
SECTION C-C
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"



SECTION G-G
Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF BENTS 14,15, 17, 18, 20 & 21
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_bl42
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53131

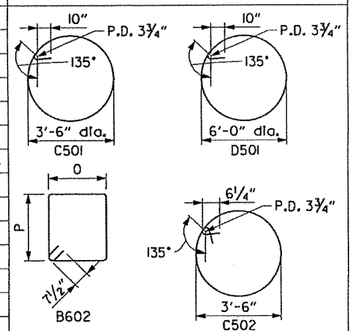
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BAR LIST - PER BENT

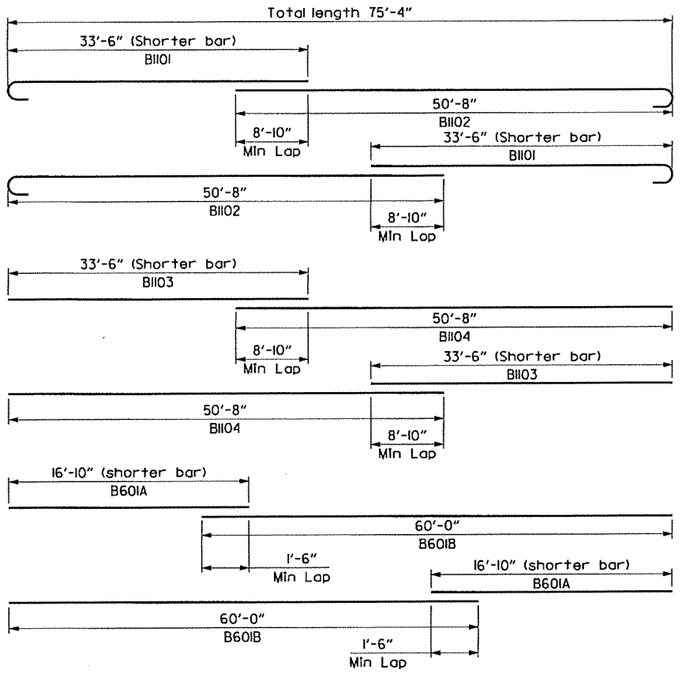
Mark	No. Req'd	P	O	Length	Pin Dia.
Drilled shaft					
D501 *	5	-	-	L1	Spiral
D1 *	N1	-	-	H10	Str.
D2 *	N2	-	-	H11	Str.
D3 *	N3	-	-	H12	Str.
Columns					
C501	5	-	-	L2	Spiral
C502	85	-	-	12'-4"	Hoops
C901	N4	-	-	H6	Str.
Cap					
B601A	8	-	-	16'-10"	Str.
B601B	8	-	-	60'-0"	Str.
B602	114	4'-8"	4'-2"	18'-6"	4½"
B602C	40	4'-8"	4'-2"	13'-2"	4½"
B603A	8	-	-	22'-0"	Str.
B603B	16	-	-	11'-0"	Str.
B604	67	1'-6"	4'-2"	6'-10"	4½"
B605	12	1'-0"	4'-0½"	5'-8½"	4½"
B606	8	1'-0"	4'-6½"	6'-2½"	4½"
B608	16	4'-3"	1'-10½"	10'-0½"	4½"
B609	8	4'-3"	3'-2"	11'-4"	4½"
B610	16	3'-5"	2'-0"	12'-0"	4½"
B1101	12	33'-6"	1'-0½"	35'-0"	11¼"
B1102	12	50'-8"	1'-0½"	52'-2"	11¼"
B1103	12	-	-	33'-6"	Str.
B1104	12	-	-	50'-8"	Str.

Bending Diagrams



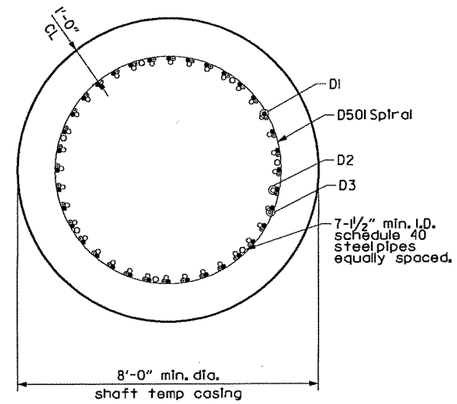
The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

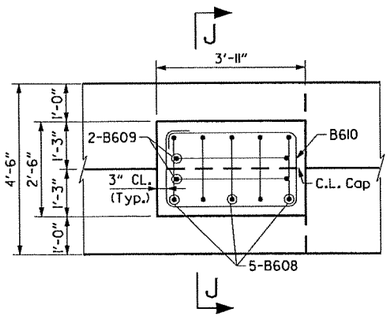


SECTION H-H

Scale: ½" = 1'-0"

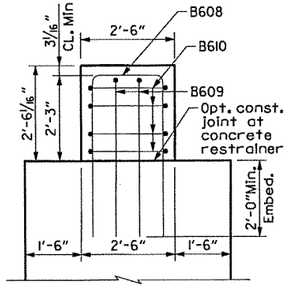
TABLE OF VARIABLES

Bent	SS	E1	E2	E3	C1	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	D1	D2	D3	L1	L2	N1	N2	N3	N4	T1	T2
14	152+08.00	269.95	245.95	198.95	26	19'-0"	36'-0"	11'-0"	47'-0"	24'-6"	29'-0"	19'-6"	-	45'-6"	46'-3"	30'-0"	-	24'-0"	50-D1101	25-D1102	-	1759'-2"	1096'-5"	250	125	-	130	98	91
15	153+27.00	267.93	246.43	199.93	26	16'-6"	35'-6"	11'-0"	46'-6"	22'-0"	26'-6"	19'-0"	33'-0"	45'-0"	45'-9"	43'-6"	29'-6"	21'-6"	29-D1101	29-D1102	29-D1103	1740'-6"	988'-1"	145	145	145	130	88	90
17	155+13.00	265.93	245.43	196.43	28	15'-6"	38'-0"	11'-0"	49'-0"	21'-0"	25'-6"	19'-6"	34'-6"	47'-6"	48'-3"	45'-0"	30'-0"	20'-6"	34-D1101	34-D1102	34-D1103	1834'-0"	944'-9"	170	170	170	140	84	95
18	156+32.00	265.38	246.38	193.88	26	14'-0"	41'-6"	11'-0"	52'-6"	19'-6"	24'-0"	19'-0"	34'-0"	51'-0"	51'-9"	44'-6"	29'-6"	19'-0"	36-D1101	36-D1102	36-D1103	1964'-10"	879'-9"	180	180	180	130	78	102
20	158+18.00	264.82	246.82	197.32	20	13'-0"	38'-6"	11'-0"	49'-6"	18'-6"	23'-0"	27'-0"	-	48'-9"	48'-9"	37'-6"	-	18'-0"	56-D1101	28-D1102	-	1890'-1"	836'-4"	280	140	-	100	74	98
21	159+37.00	264.46	249.96	182.96	20	9'-6"	56'-0"	11'-0"	67'-0"	15'-0"	19'-6"	25'-9"	-	65'-6"	66'-3"	36'-3"	-	14'-6"	44-D1001	22-D1002	-	2506'-11"	684'-8"	220	110	-	100	60	131



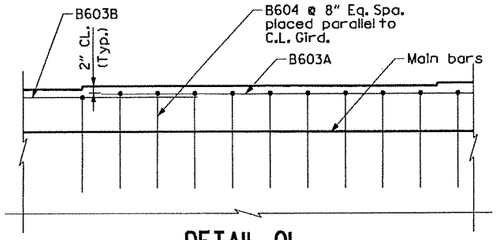
CONCRETE RESTRAINER DETAIL

Scale: ½" = 1'-0"



SECTION J-J

Scale: ½" = 1'-0"



DETAIL 01

Detail 01 to be applied only at cap seat under Grd.3 to Grd.7 other bars not shown for clarity

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	114	252
(1) 07263		Bents 14,15,17,18,20,21		53132

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF BENTS 14,15,17,18,20&21
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b143
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53132

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DATE REVISED	DATE FIL.MED	DATE REVISED	DATE FIL.MED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	115	252
				(1) 07263		End Bent 22		53133

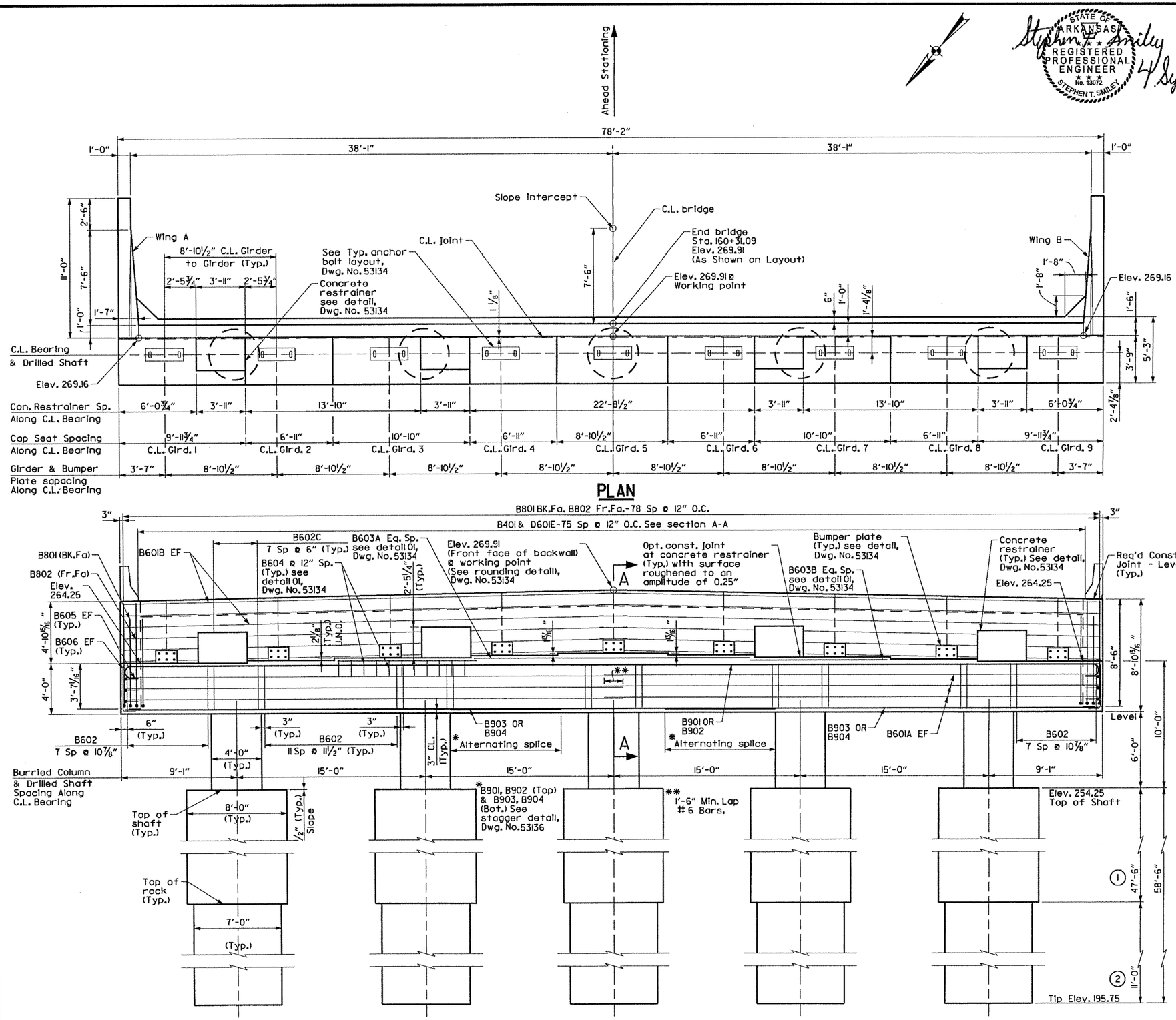
STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

For general notes, see Dwg. No. 53102

Drilled shafts shall conform to SP Job 100687 "Drilled Shaft Foundations"

(1) Temporary casing may be required to control groundwater inflow and caving of overburden material. Temporary casing shall be considered subsidiary to SP Job 100687 "Drilled Shaft Foundations"

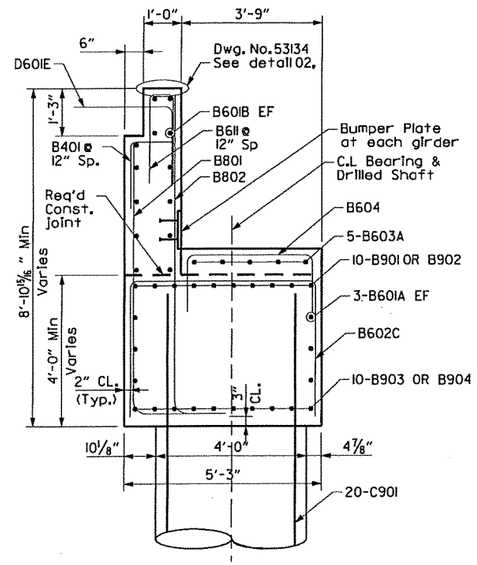
(2) Minimum penetration into competent rock below temporary casing



PLAN

ELEVATION

Looking forward



SECTION A-A

Scale: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 4
DETAILS OF END BENT 22
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b221
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	1/4" = 1'-0"
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53133

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	116	252
				(1) 07263		End Bent 22		53134

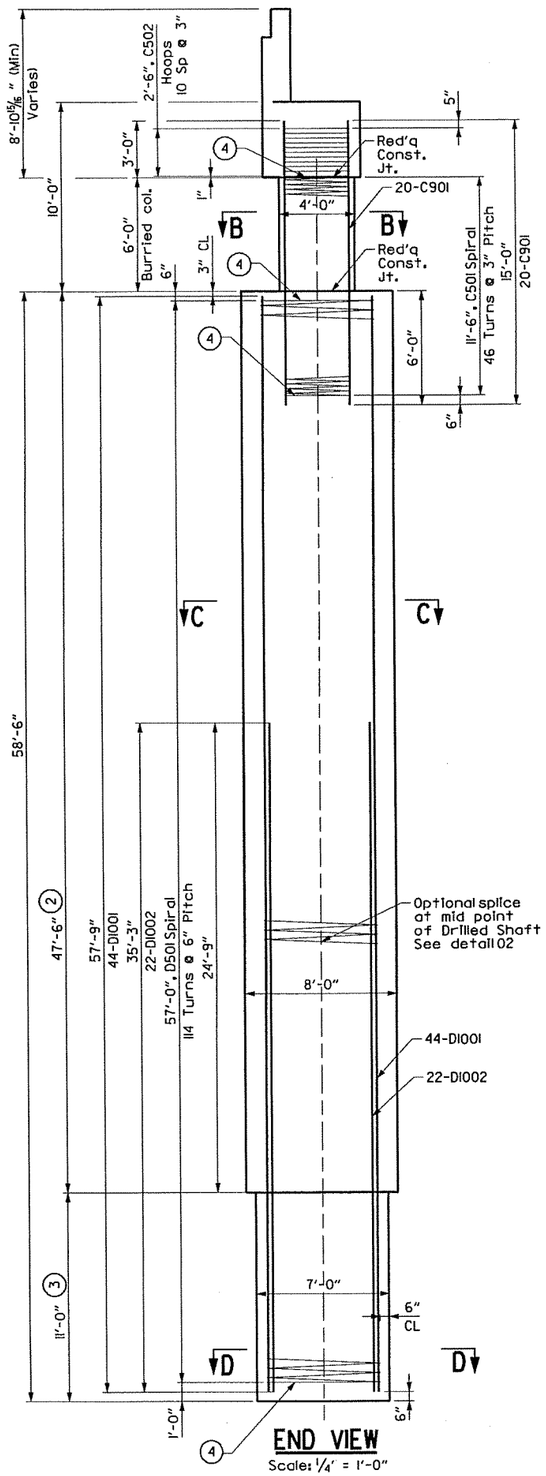
STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4/Sept 2012

(1) For details and dimension M of elastomeric bearing, see Dwg. No. 53162

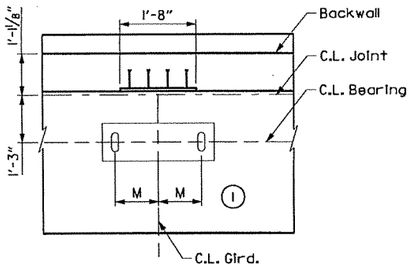
(2) The length of temporary casing shown is for estimating quantities only. Actual length are to be determined in the field. See special provision Job 100687 "Drilled Shaft Foundations". Temporary casing shall not extend below top of competent rock.

(3) Minimum penetration into competent rock below cased drilled shaft.

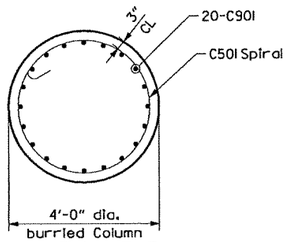
(4) End spiral reinforcing with 1½ flat turns.



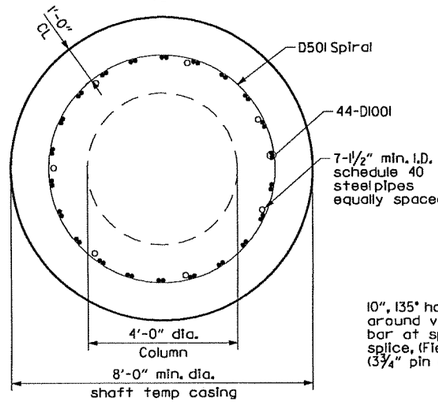
END VIEW
Scale: 1/4" = 1'-0"



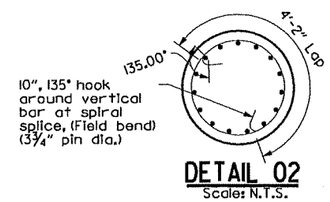
TYPICAL ANCHOR BOLT LAYOUT
Scale: 1/2" = 1'-0"



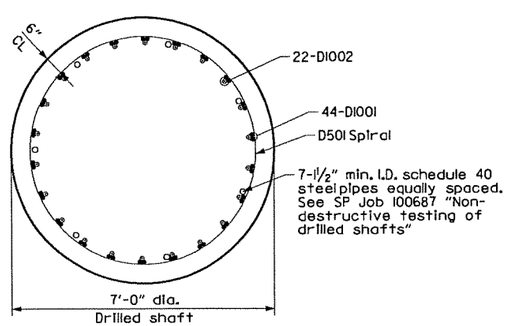
SECTION B-B
Scale: 1/2" = 1'-0"



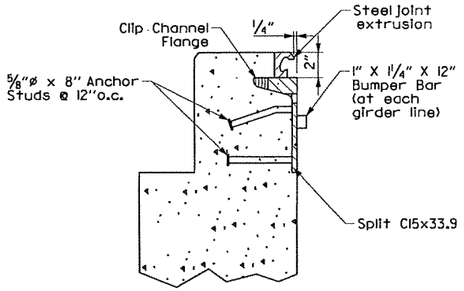
SECTION C-C
Scale: 1/2" = 1'-0"



DETAIL 02
Scale: N.T.S.



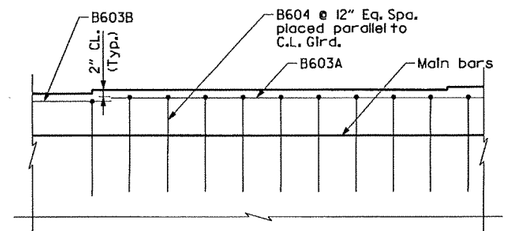
SECTION D-D
Scale: 1/2" = 1'-0"



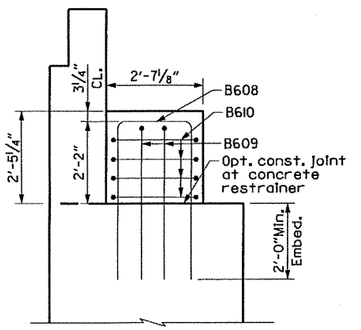
Note: For additional Joint Details, see Dwg. No. 53165

DETAIL-02
N.T.S.

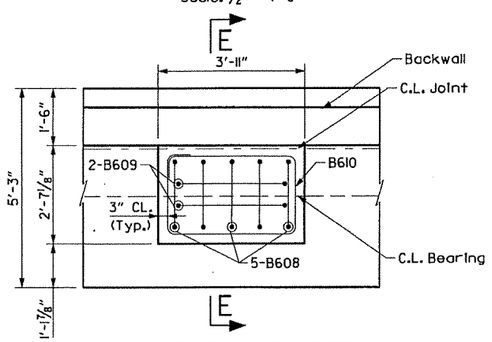
Note: Concrete shall be hand packed under the joint armor in the backwall.



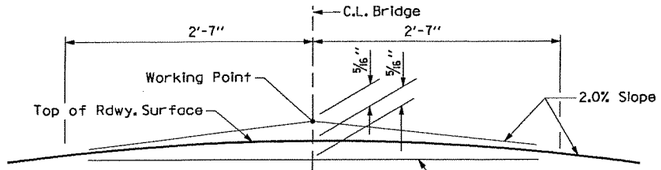
DETAIL 01
Detail 01 to be applied only at cap seat under Gird.3 to Gird.7 other bars not shown for clarity
N.T.S.



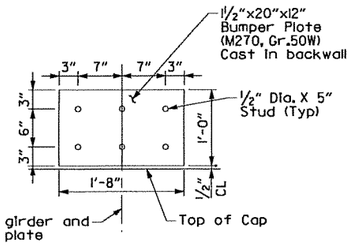
SECTION E-E
Scale: 1/2" = 1'-0"



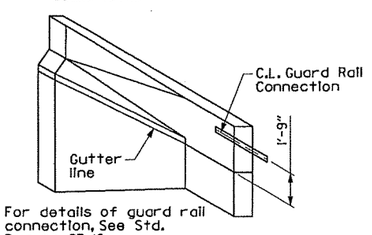
CONCRETE RESTRAINER DETAIL
Scale: 1/2" = 1'-0"



ROUNDING DETAIL
Looking Ahead
N.T.S.



BUMPER PLATE DETAIL
Scale: N.T.S.



For details of guard rail connection, See Std. Dwg. no. GR-10

THREE DIMENSIONAL VIEW OF RAIL
N.T.S.

BRIDGEFARMER & ASSOCIATES, INC.
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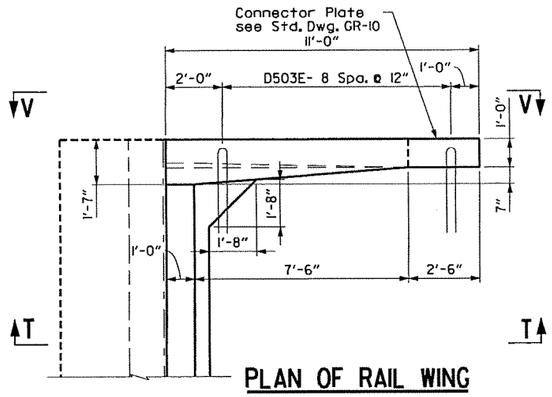
SHEET 2 OF 4
DETAILS OF END BENT 22
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	MRS	DATE:	8/13/12	FILENAME:	b100687_b222
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	MRS	DATE:	6/28/12		

BRIDGE NO. 07263 DRAWING NO. 53134

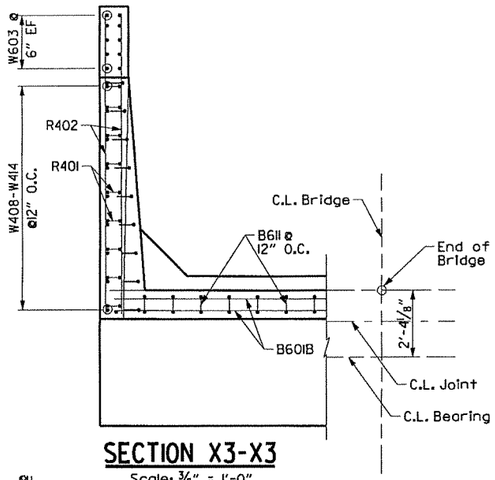
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9/4/2012
sts



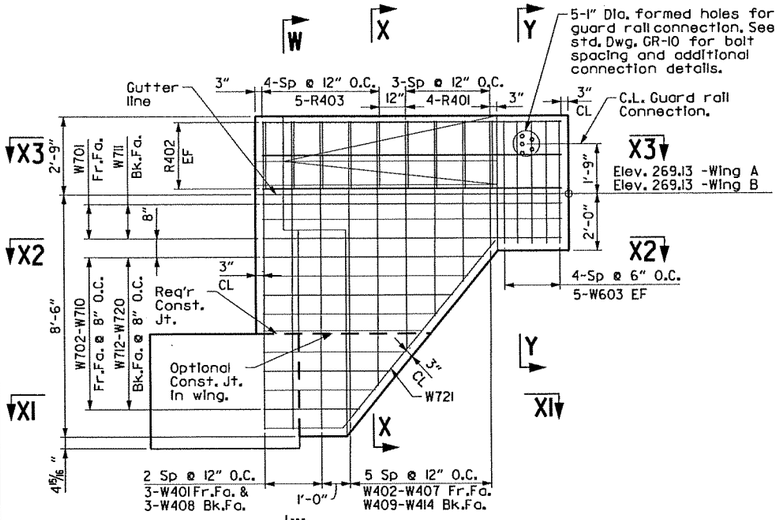
PLAN OF RAIL WING

Scale: 3/8" = 1'-0"



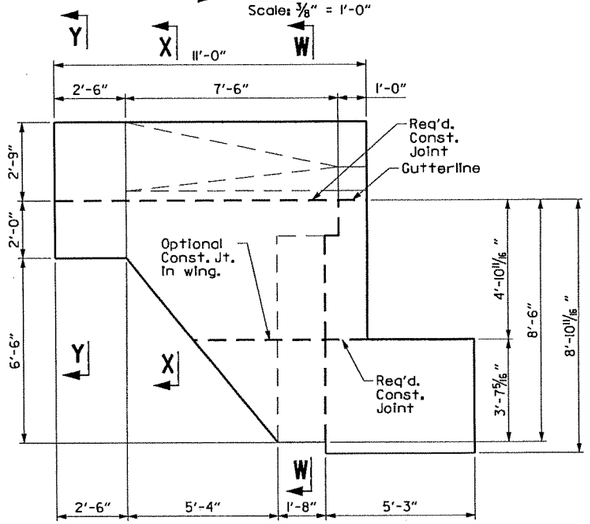
SECTION X3-X3

Scale: 3/8" = 1'-0"



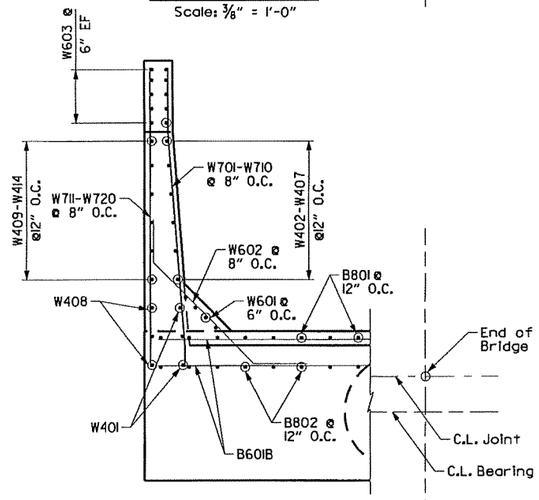
VIEW T-T

Scale: 3/8" = 1'-0"



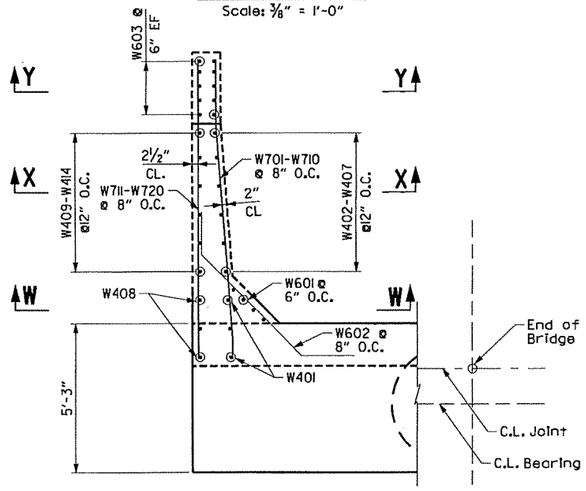
VIEW V-V

Scale: 3/8" = 1'-0"



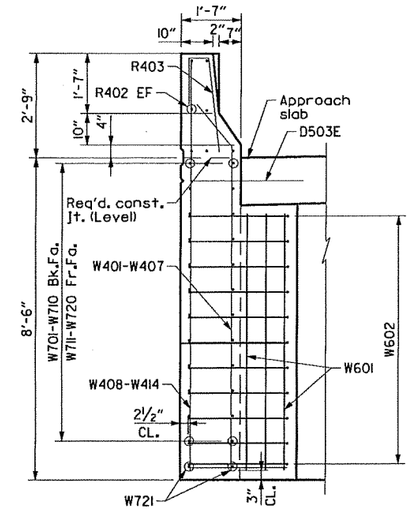
SECTION X2-X2

Scale: 3/8" = 1'-0"



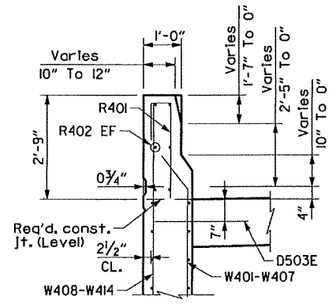
SECTION XI-XI

Scale: 3/8" = 1'-0"



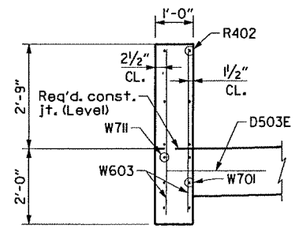
SECTION W-W

Scale: 1/2" = 1'-0"



SECTION X-X

Scale: 1/2" = 1'-0"



SECTION Y-Y

Scale: 1/2" = 1'-0"

STATE OF ARKANSAS
Stephen Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	117	252
				(1) 07263		End Bent 22		53135

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 4
DETAILS OF END BENT 22
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: MRS DATE: 6/28/12
FILENAME: b100687_b223
SCALE: AS SHOWN

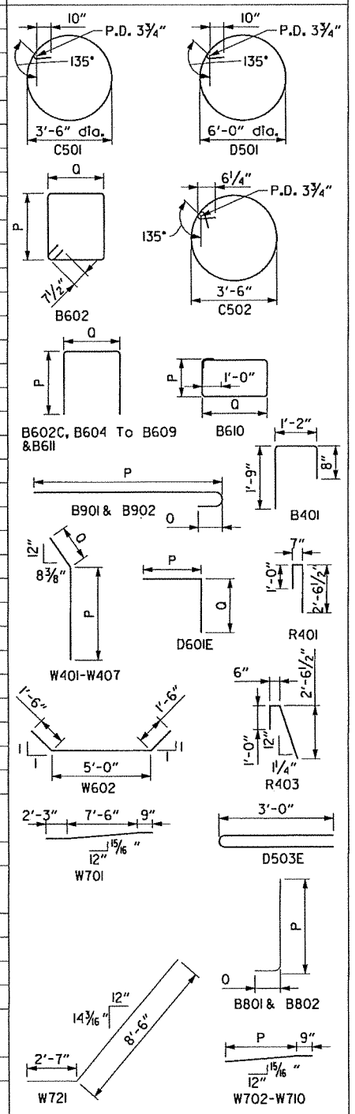
BRIDGE NO. 07263 DRAWING NO. 53135

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BAR LIST

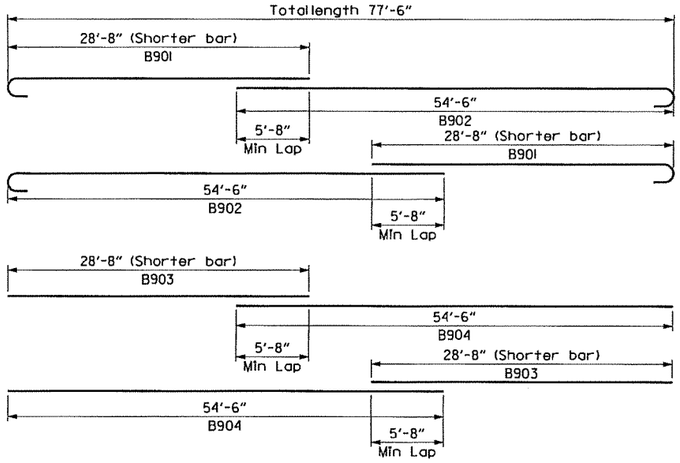
Mark	No. Req'd	P	Q	Length	Pin Dia.
Drilled shaft					
D501 *	5	-	-	2189'-2"	Spiral
D1001 *	220	-	-	57'-9"	Str.
D1002 *	110	-	-	35'-3"	Str.
Columns					
C501	5	-	-	533'-0"	Spiral
C502	55	-	-	12'-4"	Hoops
C901	100	-	-	15'-0"	Str.
Cap & Backwall					
B401	76	1'-9"	1'-2"	3'-5"	2"
B601A	12	-	-	39'-6"	Str.
B601B	26	-	-	39'-8"	Str.
B602	64	3'-7"	4'-11"	17'-10"	4½"
B602C	40	3'-7"	4'-11"	11'-9"	4½"
B603A	5	-	-	22'-0"	Str.
B603B	10	-	-	11'-0"	Str.
B604	45	1'-6"	3'-5"	6'-1"	4½"
B605	6	1'-0"	4'-9½"	6'-5½"	4½"
B606	10	1'-0"	3'-5½"	5'-1½"	4½"
B608	20	4'-2"	1'-11½"	9'-11½"	4½"
B609	8	4'-2"	3'-2"	11'-2"	4½"
B610	16	2'-3"	3'-5"	12'-8"	4½"
B611	76	2'-0"	8"	4'-4"	4½"
B801	79	7'-2½"	1'-4"	8'-4"	6"
B802	79	8'-5½"	1'-4"	9'-7"	6"
B901	10	28'-8"	10"	29'-11"	9"
B902	10	54'-6"	10"	55'-9"	9"
B903	10	-	-	28'-8"	Str.
B904	10	-	-	54'-6"	Str.
D601E	76	3'-1"	2'-10"	5'-9"	4½"
Wing Walls					
W401	6	8'-7"	1'-11"	10'-6"	2"
W402 TO W407	12	8'-1" To 2'-3"	1'-11"	10'-0" To 4'-2"	2"
W408	6	-	-	10'-10"	2"
W409 TO W414	12	-	-	6'-2¾" To 1'-6"	Str.
W601	8	-	-	6'-9"	Str.
W602	22	-	-	8'-0"	4½"
W603	20	-	-	4'-4"	Str.
W701	6	-	-	10'-6"	5¼"
W702 TO W710	18	7'-0" To 2'-8"	9"	7'-9" To 3'-5"	5¼"
W711	6	-	-	10'-6"	Str.
W712 TO W720	18	-	-	7'-9" To 3'-5"	Str.
D503E	18	-	-	6'-2"	3¾"
Rail					
R401	8	-	-	4'-0"	2"
R402	12	-	-	10'-6"	Str.
R403	10	-	-	3'-11"	2"

Bending Diagrams



The dimensions shown for the bending diagrams are out-to-out of bars.

* Non pay item-subsidiary to SP Job 100687 "Drilled Shaft Foundations"



BAR SPLICE (STAGGER DETAIL)

Scale: N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012

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				6	ARK.			
				JOB NO.		100687	118	252
				1 07263		End Bent 22		53136

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 4
DETAILS OF END BENT 22
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
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LITTLE ROCK, ARK.

DRAWN BY: MRS DATE: 8/13/12
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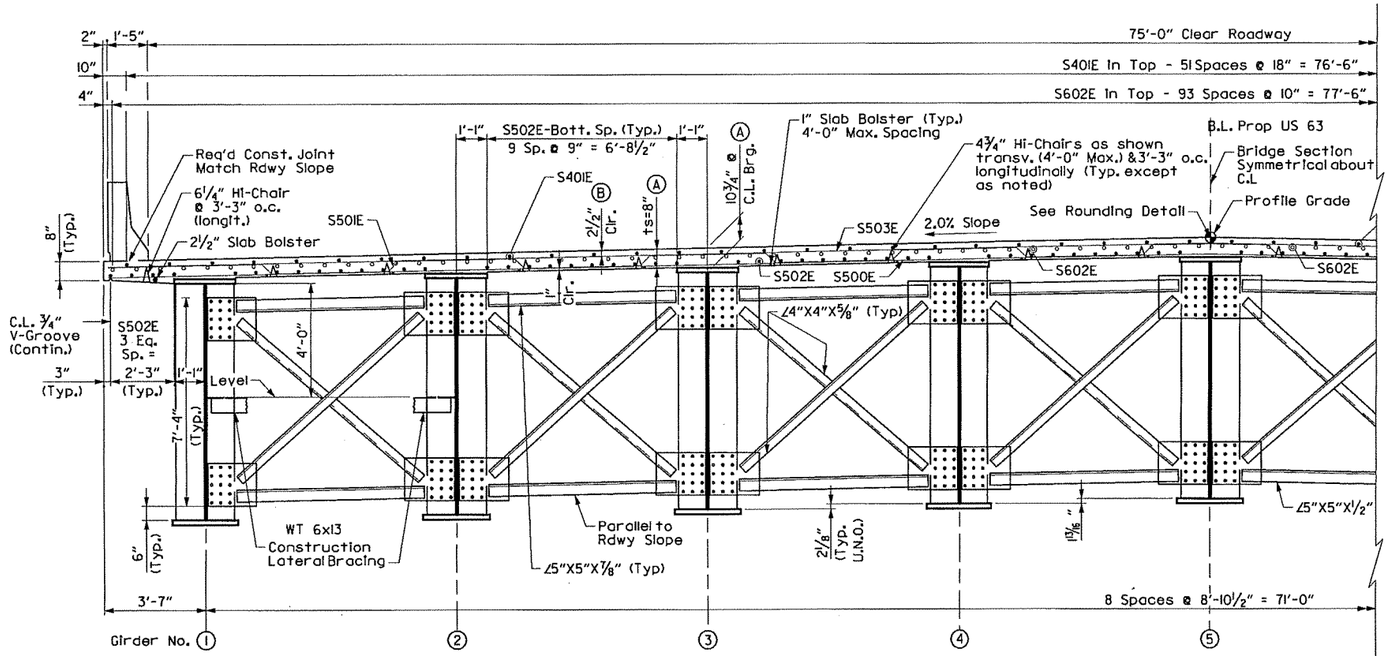
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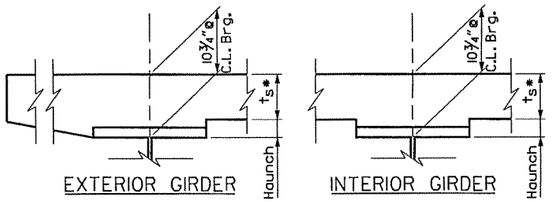
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				6	ARK.			
				JOB NO.		100687	119	252
				1 07263		Span Details		53137

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13073
STEPHEN T. SMILEY
4 Sept 2012



TYPICAL ROADWAY SECTION

Looking Ahead
Scale: ⅜" = 1'-0"

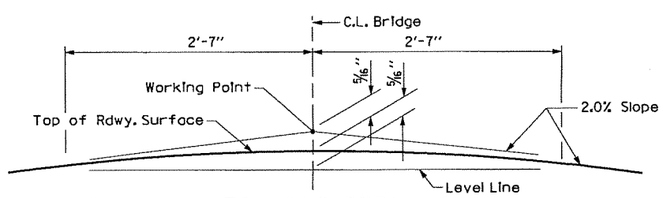


Note: ts = slab thickness as shown on "TYPICAL SECTION"
*Tolerance when removable deck forming is used is +1/2", -¼".
Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERENCE WHEN REMOVABLE DECK FORMING IS USED

No Scale

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum - occurs when the top flange is ½" from the bottom reinforcing steel; Maximum - top flange thickness plus 2¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.
Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.



ROUNDING DETAIL

Looking Ahead
N.T.S.

NOTES:

One Epoxy Coated #5 bar in the top and one Epoxy Coated #5 bar in the bottom may be substituted for each bar S501E. Payment will be based on the weight of bar S501E.

Class I Protective Surface Treatment shall be applied to the Roadway Surface and the face and top of parapet rail.

All bars designated with an E suffix are to be epoxy coated.

A Horizontal Const. Jt. is req'd Between the Slab and Cast in Place Diaphragms.

SLAB REINFORCING:

Transverse:
S503E @ 13" Centers (Top)
S601E @ 13" Centers (Top Overhang)
S501E @ 13" Centers (Bent up over beam)
S500E @ 13" Centers (bottom)

Longitudinal:
S401E @ 18" Centers (Top Temperature)
S602E @ 10" Centers (Top)
S502E @ place as shown (Bottom)

EXPANSION DEVICE @ BENTS 1&4

4" Finger Joint
Roadway Channel C15x33.9
Channel Conn. - WT 10.5x31
Finger Joint - 4" Movement
Detail Device ⅛" high and provide ¼" shims using 1 - ⅛" PL & 2 - 1/16" PL's

For Additional Details of Expansion Device, See Dwg. No. 53163 & 53164

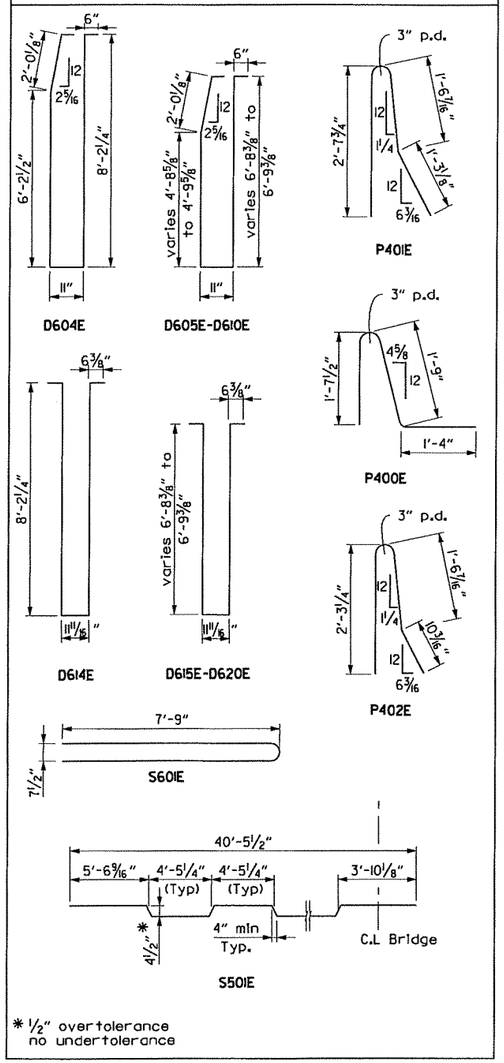
BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
S401E	1092	38'-8"	Str.
S500E	1402	40'-7"	Str.
S501E	1400	41'-4"	3"
S502E	1232	57'-3"	Str.
S503E	1402	40'-7"	Str.
S601E	1400	15'-10"	6"
S602E	1316	57'-9"	Str.
P400E	2160	4'-10"	2"
P401E	2160	5'-7"	2"
P402E	736	4'-9"	2"
P403E	14	13'-0"	Str.
P404E	7	13'-3"	Str.
P405E	7	13'-3"	Str.
P406E	98	13'-1"	Str.
P407E	7	13'-5"	Str.
P408E	7	13'-5"	Str.
P409E	413	13'-1"	Str.
P410E	7	12'-9"	Str.
P411E	105	13'-5"	Str.
P412E	119	13'-5"	Str.
D601E	192	2'-0"	Str.
D602E	336	8'-4"	Str.
D603E	32	8'-4"	Str.
D604E	96	17'-7"	4 1/2"
D605E to D610E	16 ea.	14'-8" to 14'-10"	4 1/2"
D611E	192	2'-2"	Str.
D612E	352	8'-10"	Str.
D613E	32	8'-10"	Str.
D614E	96	17'-8"	4 1/2"
D615E to D620E	16 ea.	14'-9" to 14'-11"	4 1/2"

Ⓐ See "Adjustment for Slab Thickness Tolerance"

Ⓑ Tolerance Minus = ¼" Plus equal to amount of slab thickening used to meet thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

Bending Diagrams
(Dimensions are out to out of bars)



BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

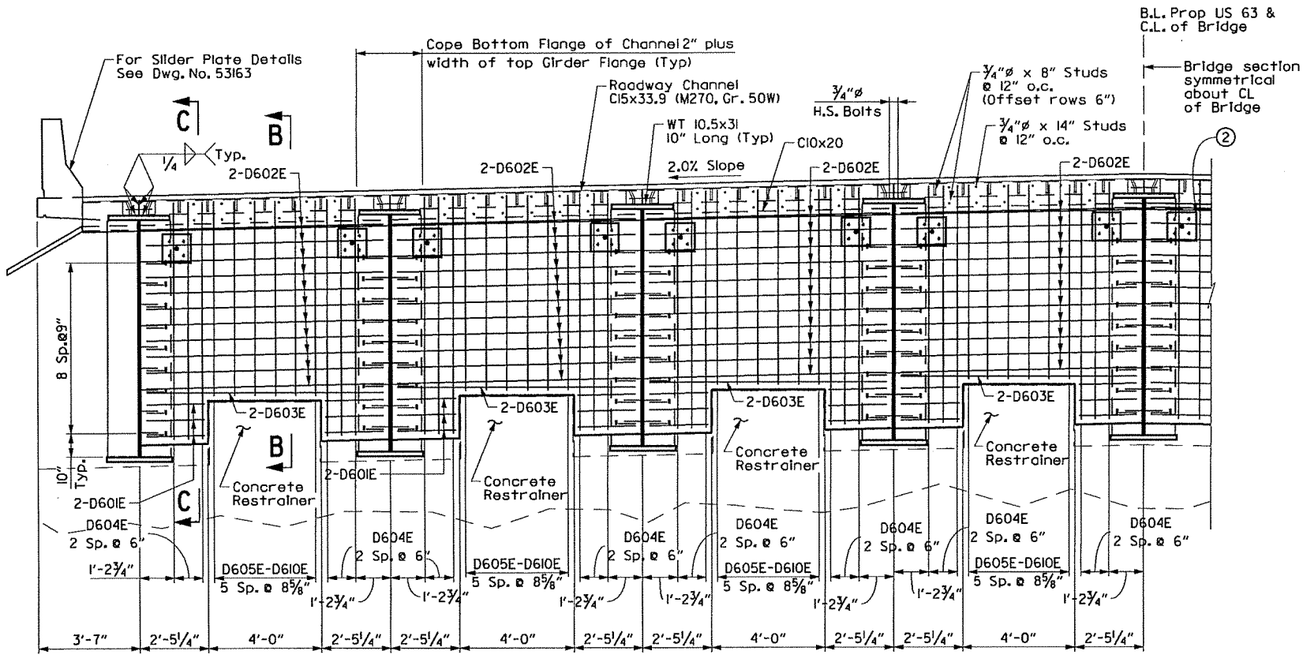
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DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53137

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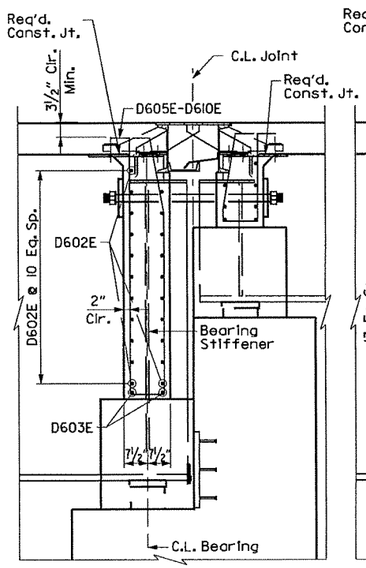
Note: ½" Polystyrene may be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place.

(2) Not applicable at bent 1



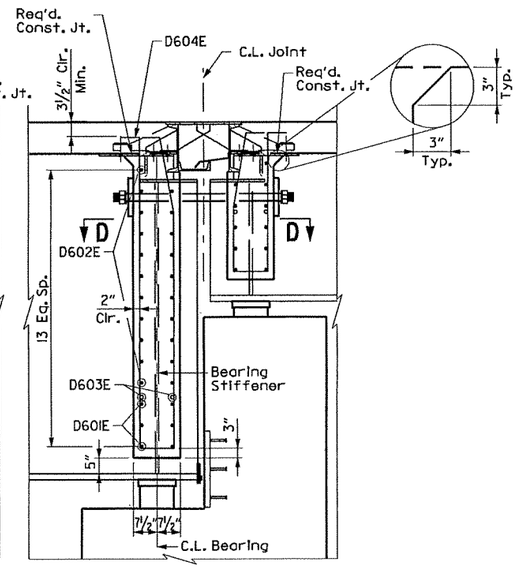
TYPICAL SECTION NEAR FINGER JOINT

Looking Ahead
Scale: ⅜" = 1'-0"



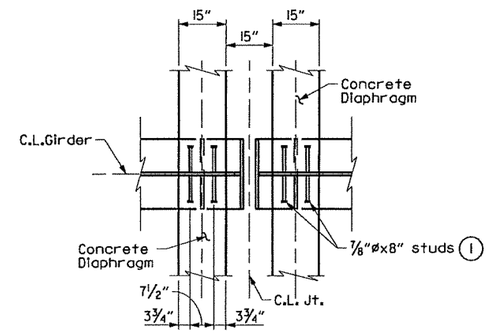
SECTION B-B @ BENT 4

Scale: ½" = 1'-0"



SECTION C-C @ BENT 4

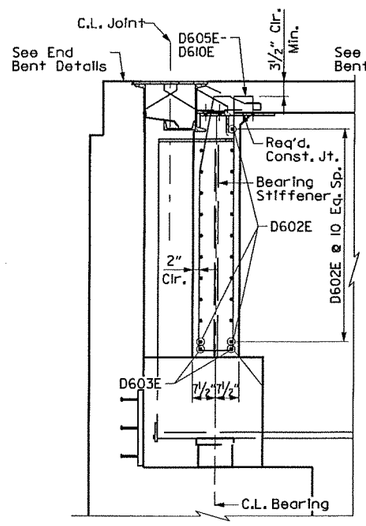
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SECTION D-D

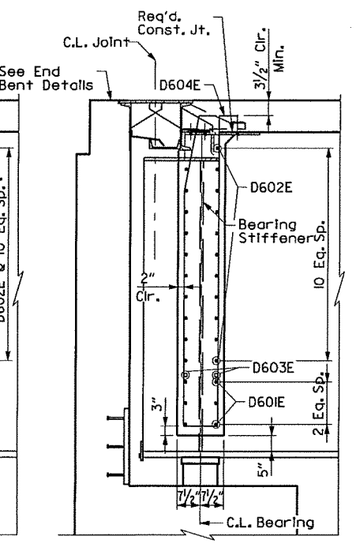
Scale: ½" = 1'-0"

(1) Omit studs on outside of Exterior Girders.



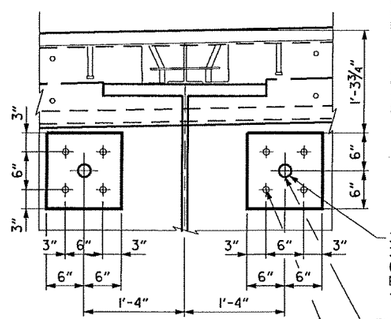
SECTION B-B @ BENT 1

Scale: ½" = 1'-0"



SECTION C-C @ BENT 1

Scale: ½" = 1'-0"



Note: Longitudinal Restrainer Rod shall conform to AASHTO M270, Grade 50 with threads conforming to American Standard Course, Class 2 Fit, ASA Specification B1.1. Washers for longitudinal restrainer rod shall conform to AASHTO M293. Nuts for longitudinal restrainers shall conform to subsection 807.06. Rods, Nuts and Washers for the longitudinal restrainers shall be galvanized in accordance with AASHTO M232 class C or AASHTO M298 class 50. See Dwg. No. 53139 for additional Restrainer Rod Installation Details.

RESTRAINER BOLT ASSEMBLY DETAIL

N.T.S

STATE OF ARKANSAS
STEPHEN T. SMILEY
REGISTERED PROFESSIONAL ENGINEER
No. 13072
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	120	252
				(1) 07263		Span Details		53138

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

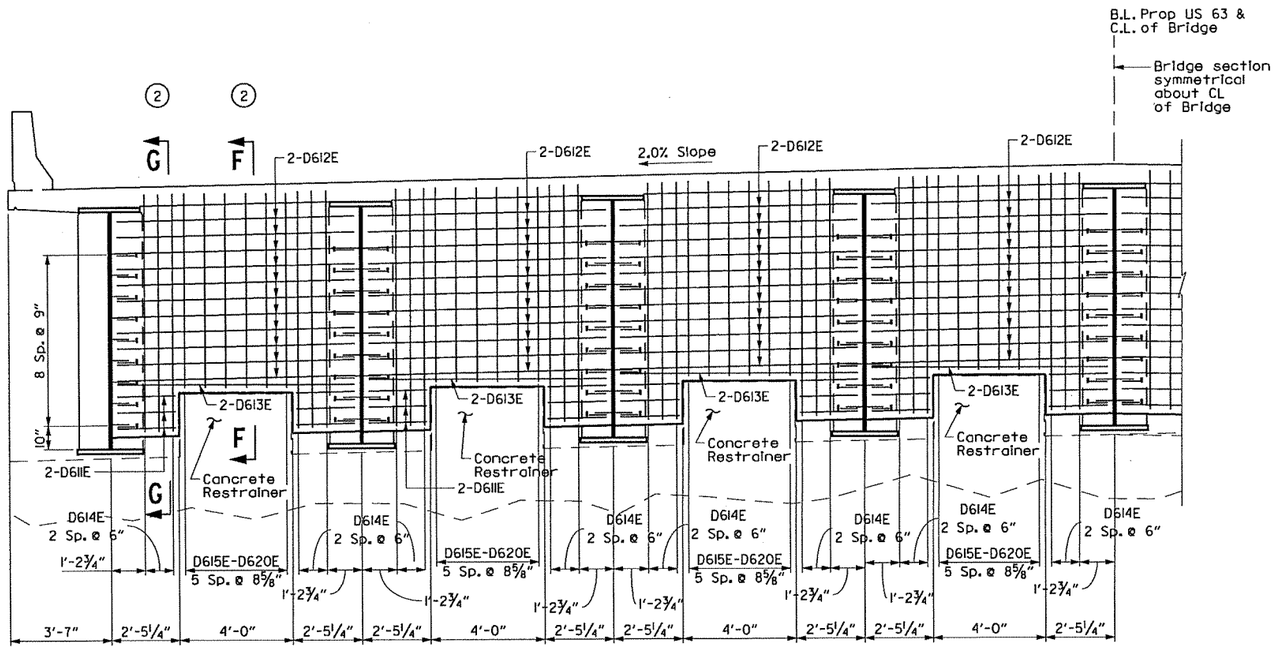
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BRIDGE NO. 07263 DRAWING NO. 53138

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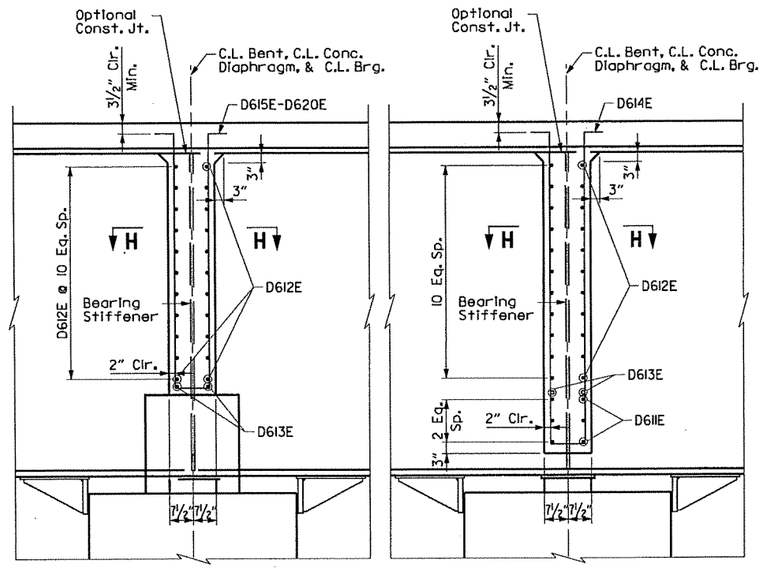
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				6	ARK.			
				JOB NO.		100687	121	252
				(1) 07263		Span Details		53139

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



TYPICAL SECTION AT INTERIOR BENTS

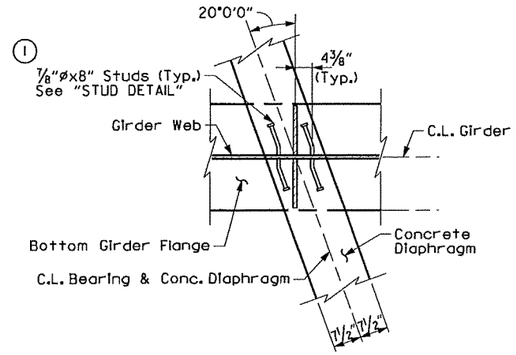
Looking Ahead
Scale: ⅜" = 1'-0"
Note: Horizontal dimensions shown are perpindicular to C.L. Bridge.



SECTION F-F
Scale: ½" = 1'-0"

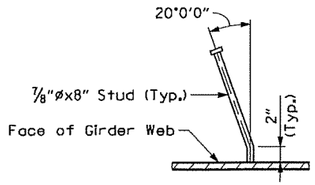
SECTION G-G
Scale: ½" = 1'-0"

Note: ½" Polystyrene may be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place.

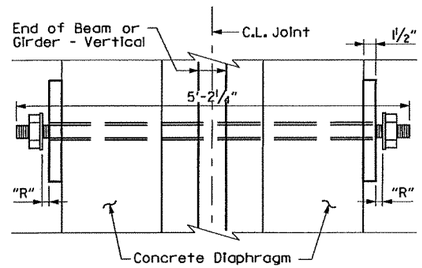


SECTION H-H
NOT TO SCALE

See "TYPICAL SECTION AT INTERIOR BENTS" for vertical stud spacing



STUD DETAIL
NOT TO SCALE



RESTRAINER ROD INSTALLATION DETAIL
N.T.S.

Bent No.(s)	"R" - Gap Width at 24 hour Average Temperature of:		
	40°F	60°F	80°F
4	⅞"	1¼"	1⅝"

Note: Gap width shall not be set until the deck of the adjacent units has been placed. After gap width has been set, tack weld heavy hex nut to restrainer rod.

(1) Omit studs on outside of Exterior Girders.

(2) See "Partial Plan of Concrete Diaphragm" details for orientation of skewed section Dwg. No. 53141

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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BRIDGE NO. 07263 DRAWING NO. 53139

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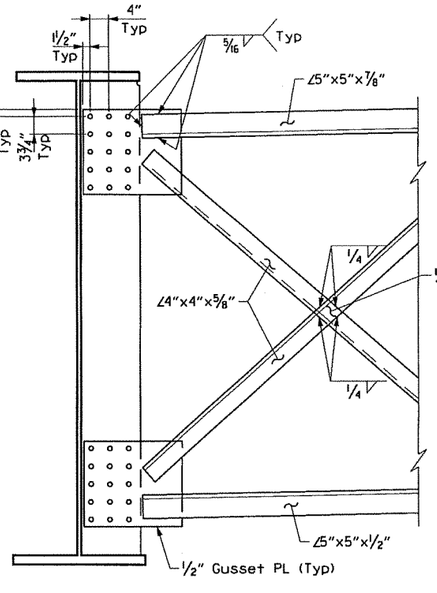
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				JOB NO.		100687	122	252
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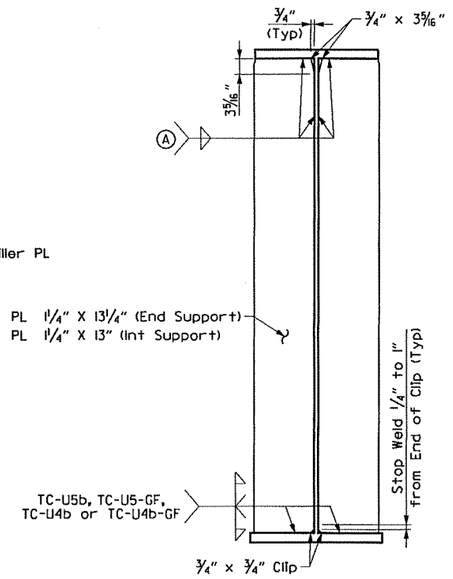
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012



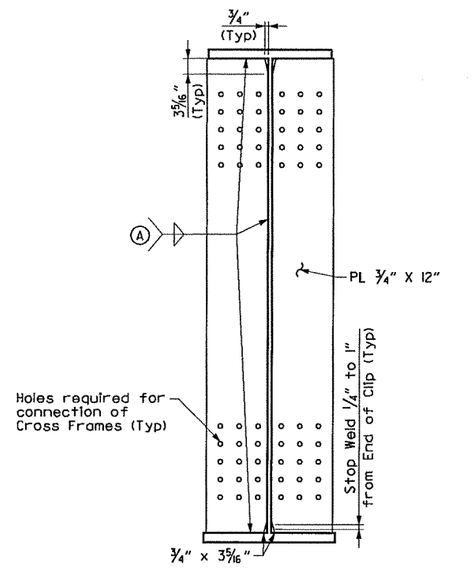
TYPICAL CROSSFRAME CONNECTION

SCALE: ¾" = 1'-0"



BEARING STIFFENER DETAIL

SCALE: ¾" = 1'-0"



CROSS FRAME CONNECTION DETAIL

SCALE: ¾" = 1'-0"

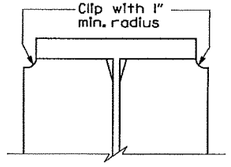


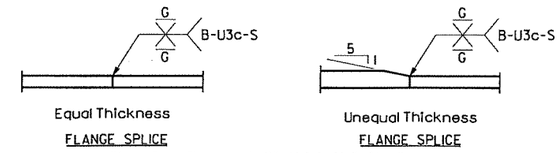
PLATE CLIP DETAIL

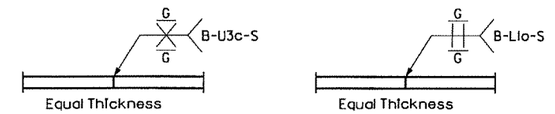
Not to Scale

TABLE FOR WELD

Material Thickness of Thicker Part Joined (inches)	Minimum Size of Fillet Weld (inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



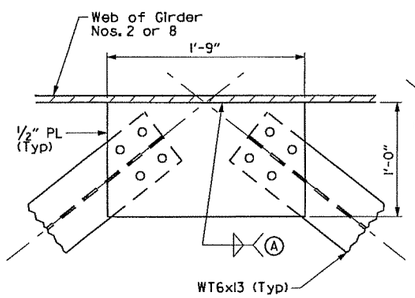


DETAILS OF WELDED SPLICES

Not to Scale

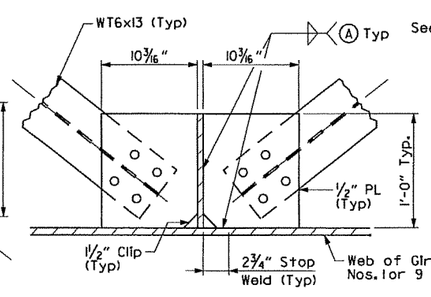
Note:
Bearing stiffeners shall be fabricated to be plumb in final position.

Ⓐ See "Table for Weld" for minimum weld size.



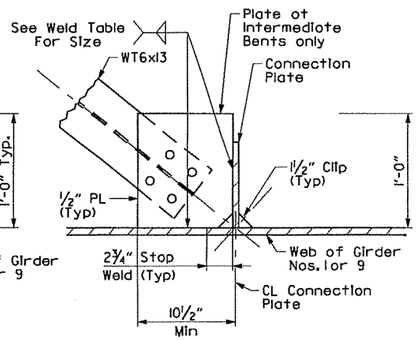
TYPICAL CONSTRUCTION LATERAL BRACE CONNECTION @ GIRDER NOS. 2 & 8

SCALE: 1½" = 1'-0"



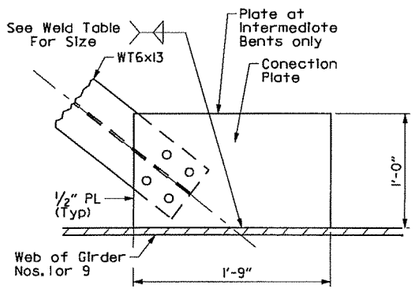
TYPICAL CONSTRUCTION LATERAL BRACE CONNECTION @ GIRDER NOS. 1 & 9

SCALE: 1½" = 1'-0"



TYPICAL CONSTRUCTION LATERAL BRACE CONNECTION TERMINATION @ EXT. GIRDER CONNECTION PL

SCALE: 1½" = 1'-0"



TYPICAL CONSTRUCTION LATERAL BRACE CONNECTION TERMINATION @ EXT. GIRDER W/O CONNECTION PL

SCALE: 1½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/20/12	FILENAME:	b100687_si04
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DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53140

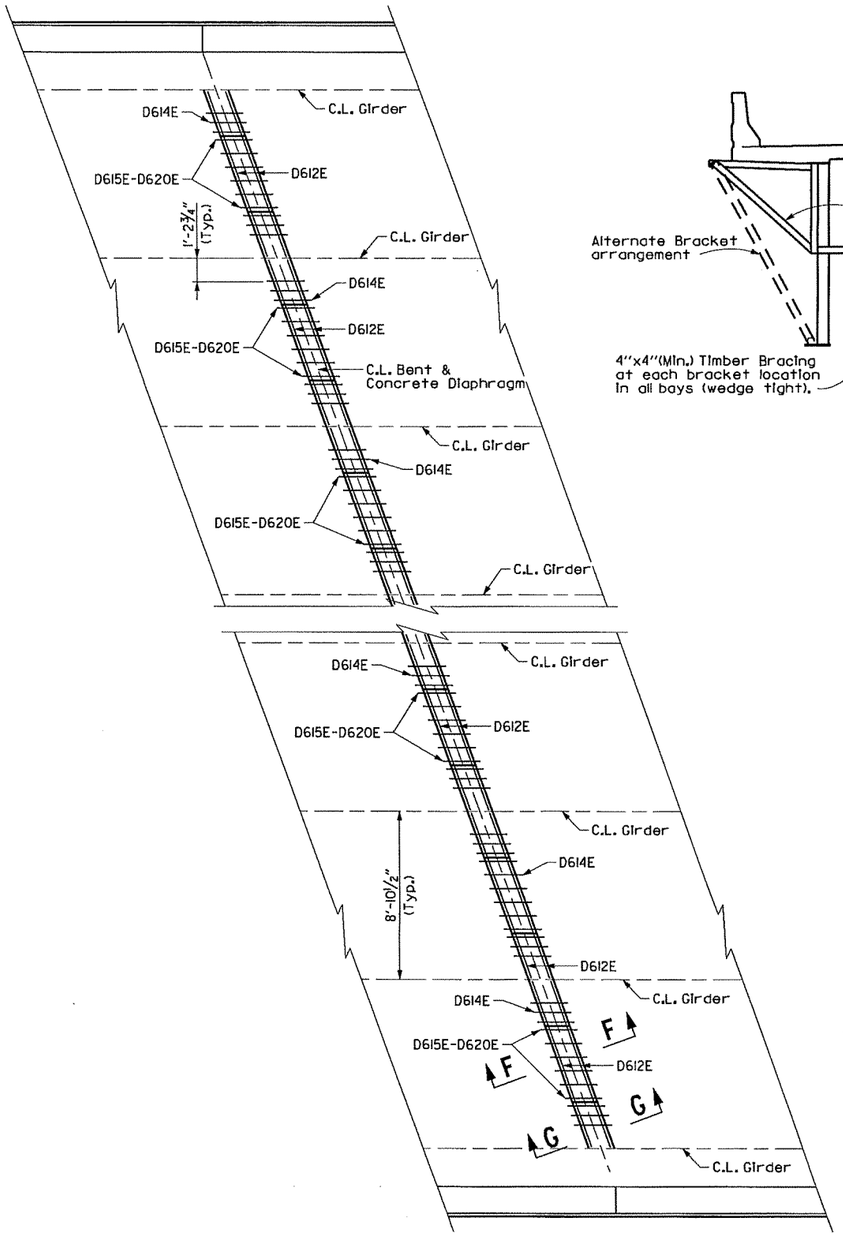
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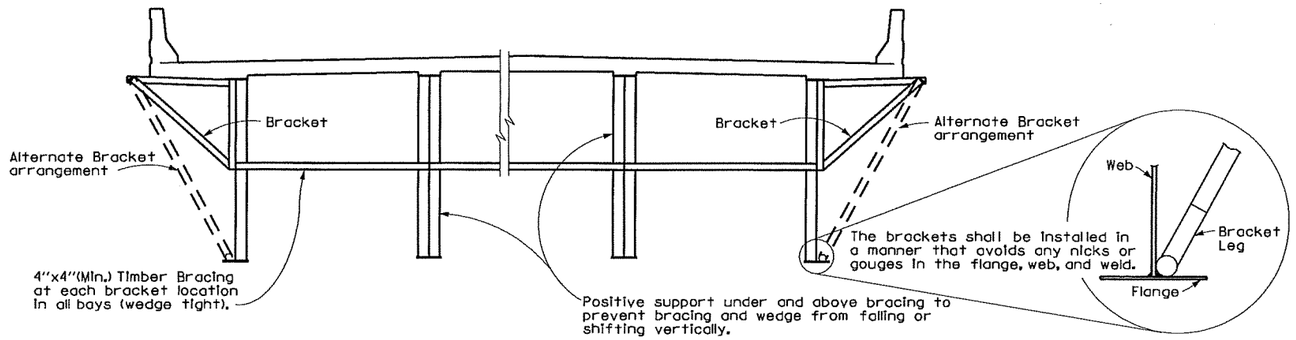
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13073
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012



PARTIAL PLAN OF CONCRETE DIAPHRAGM REINFORCING AT BENT 2 & 3

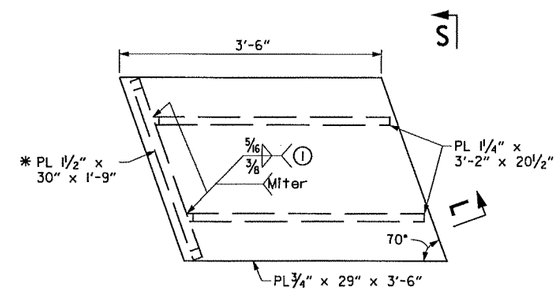
SCALE: ¼" = 1'-0"



SCREED RAIL SUPPORT

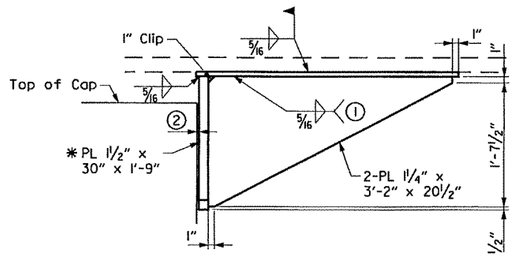
N.T.S.

Note: Where a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the strutting system shown is used. The strutting system may be omitted if 15/16"x9" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for intermediate connection plates shown on this drawing.
No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (M270, Gr. 50W)."



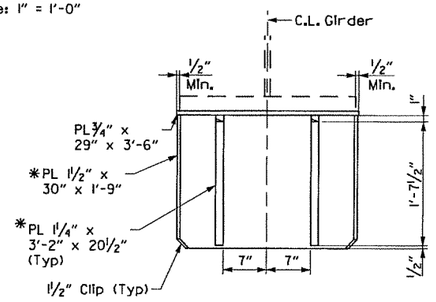
PLAN

Scale: 1" = 1'-0"



VIEW L-L

Scale: 1" = 1'-0"



VIEW S-S

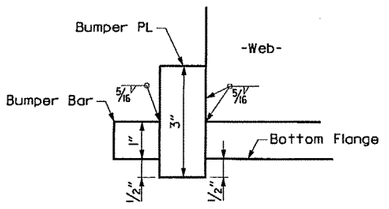
Scale: 1" = 1'-0"

(1) Stop weld ½" from clip.
(2) ¼" at Bents 2, 3 Gap measured perpendicular to cap.

LONGITUDINAL RESTRAINER DETAILS

Scale: 1" = 1'-0"

* Longitudinal restrainer shall be fabricated to account for grade so as the final position of this plate will be vertical. Longitudinal restrainer shall not be welded to flange until after deck is poured.



BUMPER CONNECTION DETAIL

(Not to Scale)

Note: Bumpers shall be centered Horizontally on each Girder line.
For remaining bumper details see Detail M&N on Dwg.Nos. 53146-53148

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 5 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/20/12	FILENAME:	b100687_sl05
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BRIDGE NO. 07263 DRAWING NO. 53141

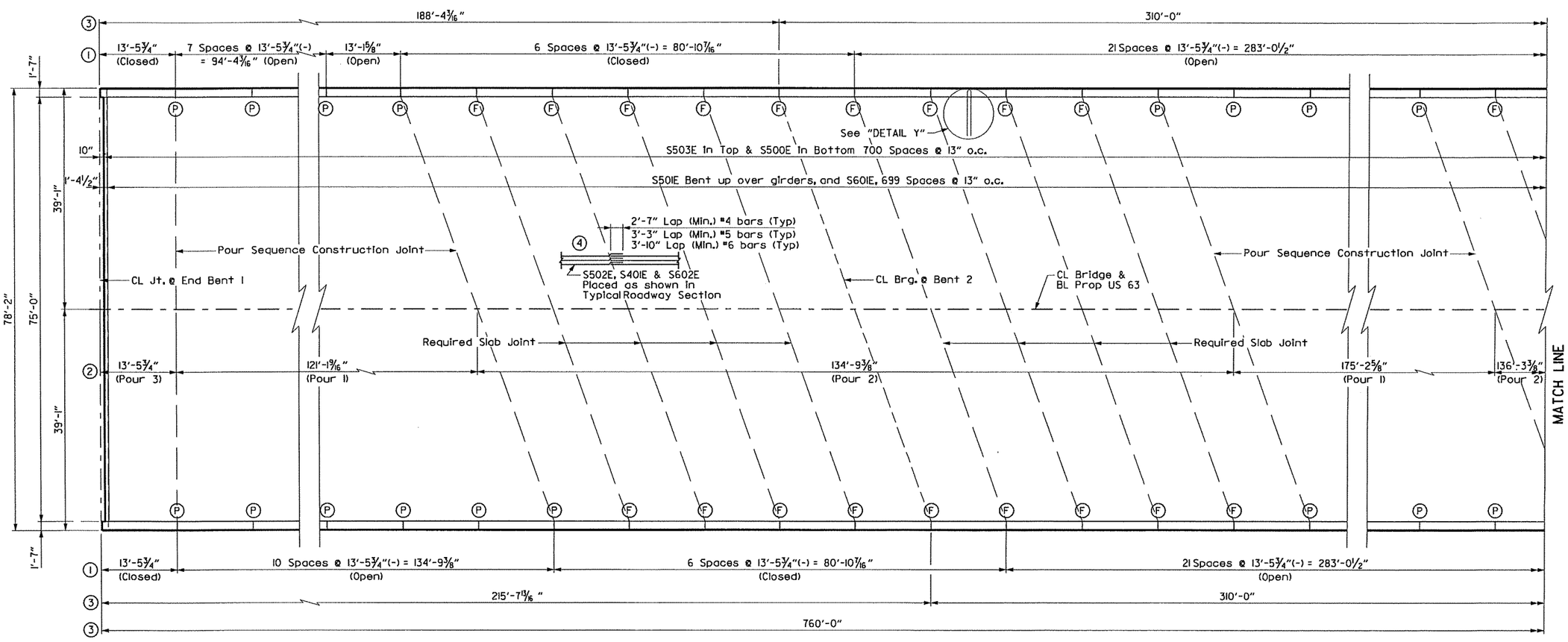
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	124	252
				(1) 07263		Span Details		53142

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012



REINFORCING PLAN & POURING SEQUENCE

SCALE: 1" = 10'-0"

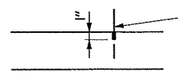
All longitudinal dimensions measured to centerline of joint or transverse reinforcing.

(1) Parapet panel spacing measured along gutterline.
(2) Dimensions measured along C.L. of Bridge.
(3) Dimensions measured along edge of deck.
(4) Min Laps also applicable to splices in Transverse Reinforcing.
(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab.
(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

Note: Pours must be made in order as numbered. Pours with the same number may be placed simultaneously or separately. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of the adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

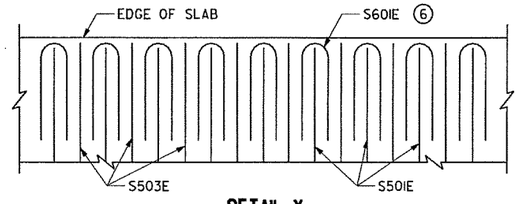
The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Note: Required slab joints and pouring sequence joints shall align with parapet open joint at the gutter line.



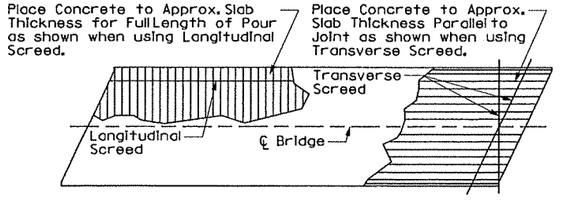
1/2" x 1" Type 3, 4 or 6 Joint Sealer. See subsection 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab Joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set up to allow the sawing of joint without damage to the slab. Slab Joints shall be placed at all Pouring Sequence Construction Joints and Required Slab Joint Locations.

SLAB JOINT DETAIL
No Scale



DETAIL Y
No Scale

(6) Spaced equally between S503E and S501E



Note: At the Contractor's option, the Transverse Screed may be placed parallel to the skew or perpendicular to C.L. Bridge

CONCRETE PLACEMENT PROCEDURE
No Scale

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 6 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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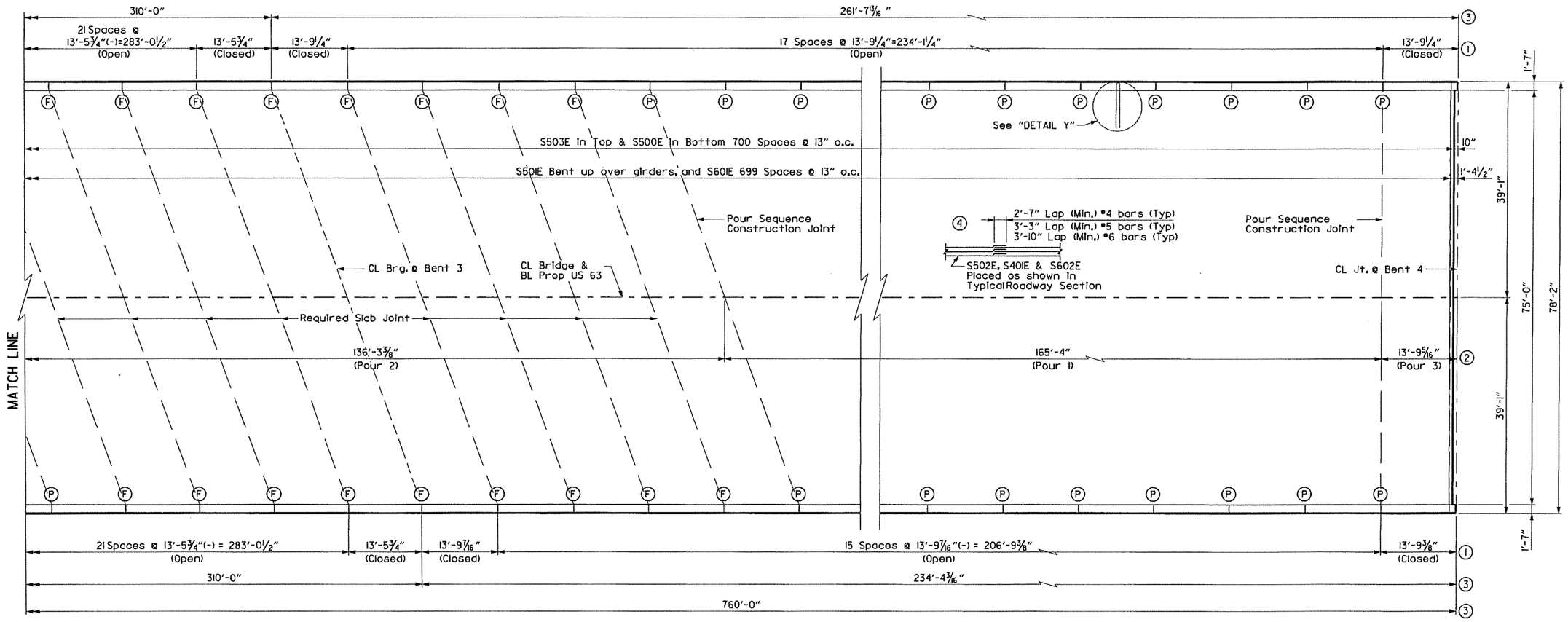
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				6	ARK.			
				JOB NO.		100687	125	252
				(1) 07263		Span Details		53143

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

4 Sept 2012



REINFORCING PLAN & POURING SEQUENCE

SCALE: 1" = 10'-0"

All longitudinal dimensions measured to centerline of joint or transverse reinforcing.

(1) Parapet panel spacing measured along gutterline.

(2) Dimensions measured along C.L. of Bridge.

(3) Dimensions measured along edge of deck.

(4) Min Laps also applicable to splices in Transverse Reinforcing.

(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab.

(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 7 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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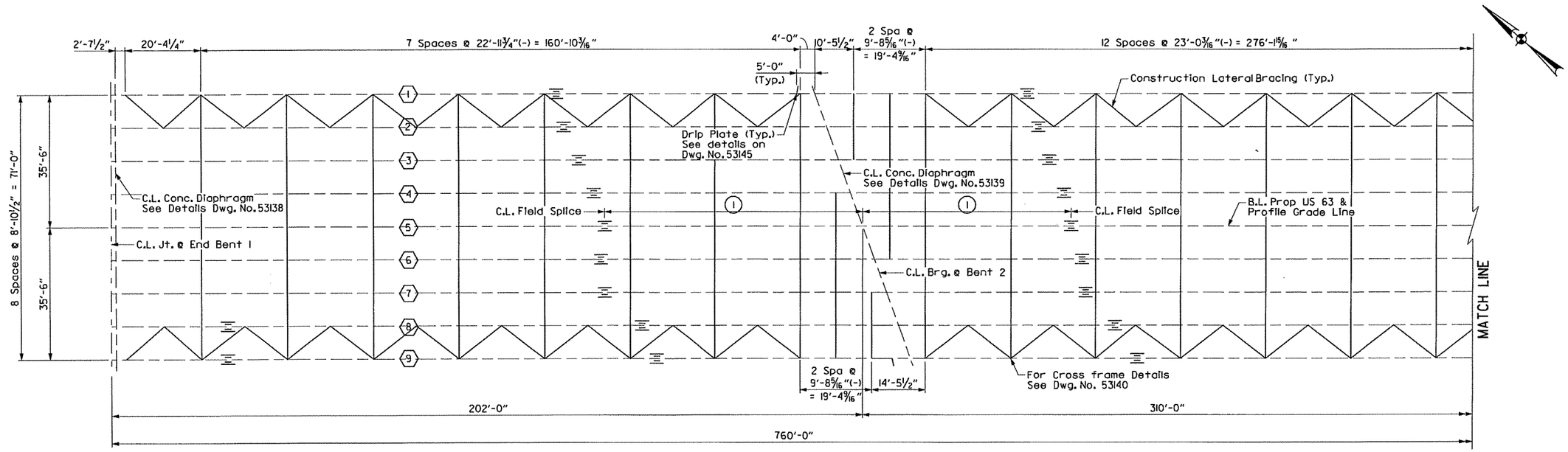
(1) See each Girder Elevation for specific locations and Types of bolted Field Splices and Stiffeners along Girder

(X) Girder number

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

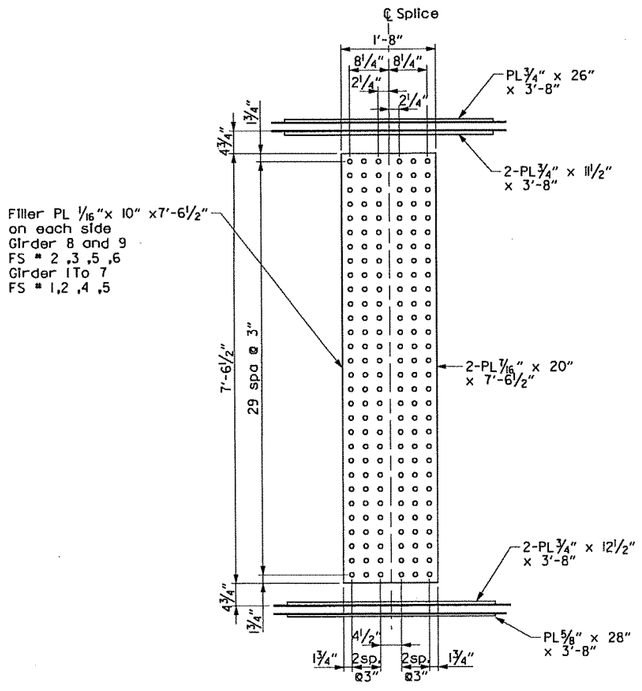
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6	ARK.			
JOB NO.		100687	126	252
(1) 07263		Span Details		53144



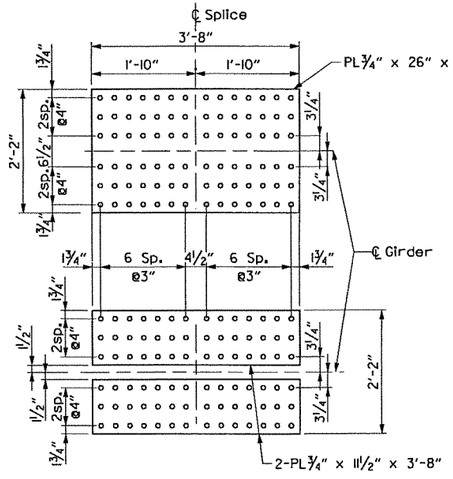
FRAMING PLAN

SCALE: 1" = 15'-0"

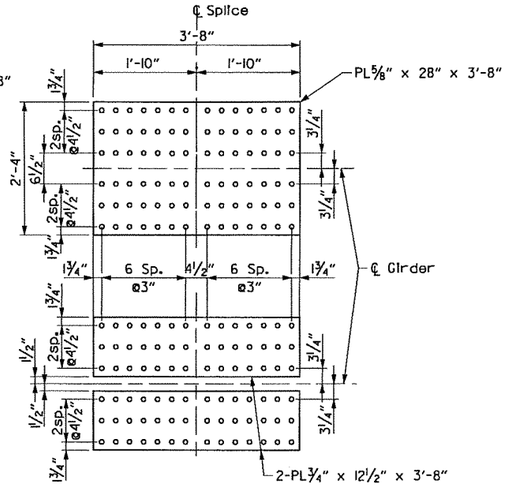


WEB SPLICE TYPE A DETAIL

SCALE: ¾" = 1'-0"



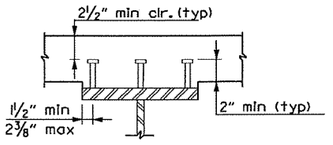
TOP



BOTTOM

FLANGE SPLICE TYPE A DETAILS

SCALE: ¾" = 1'-0"



Stud Shear Connectors shown shall be ⅞" dia. x 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. ¾" dia. studs may be used in place of the ⅞" dia. studs shown, at the ratio of 1.361-¾" dia. studs in place of one ⅞" dia. stud. ⅞" dia. studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

Not to Scale

BRIDGEFARMER & ASSOCIATES, INC.
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SHEET 8 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	ST	DATE:	5/15/12		

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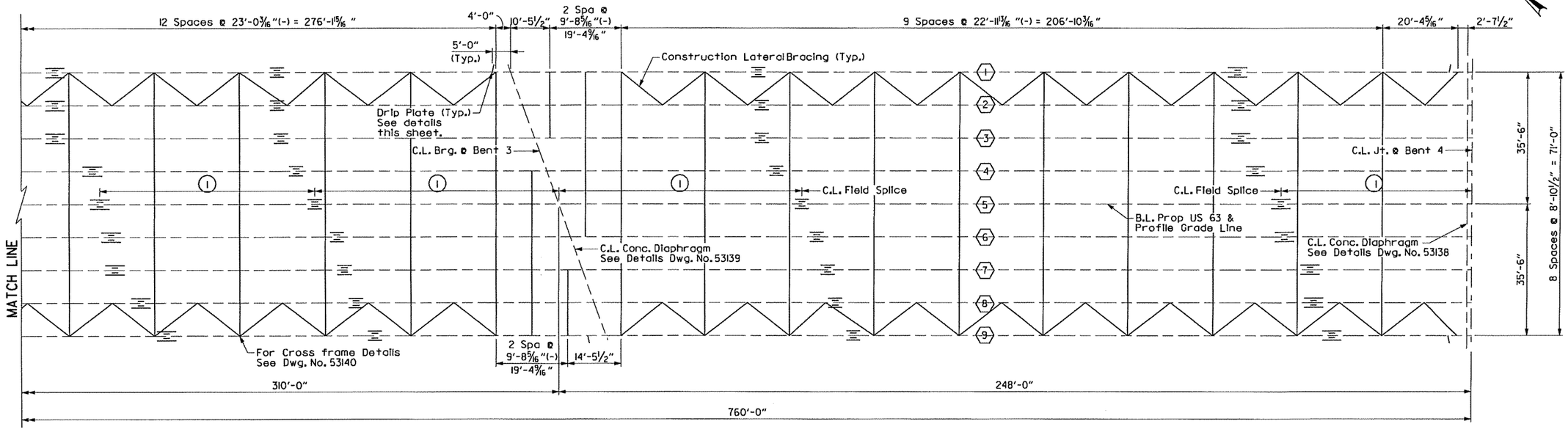
(1) See each Girder Elevation for specific locations and Types of bolted Field Splices and Stiffeners along Girder

(X) Girder number

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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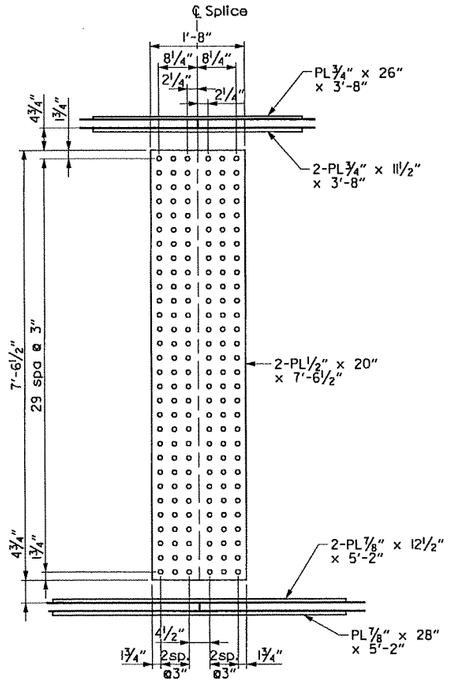
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012



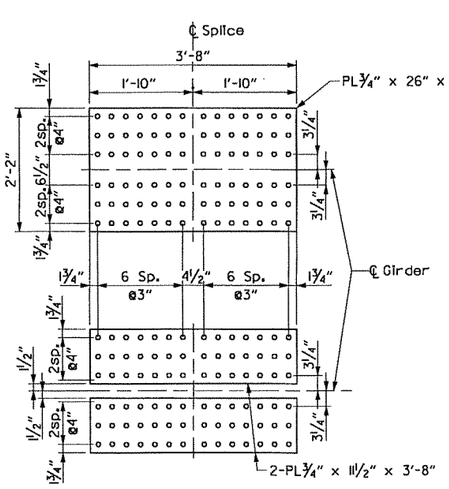
FRAMING PLAN

SCALE: 1" = 15'-0"

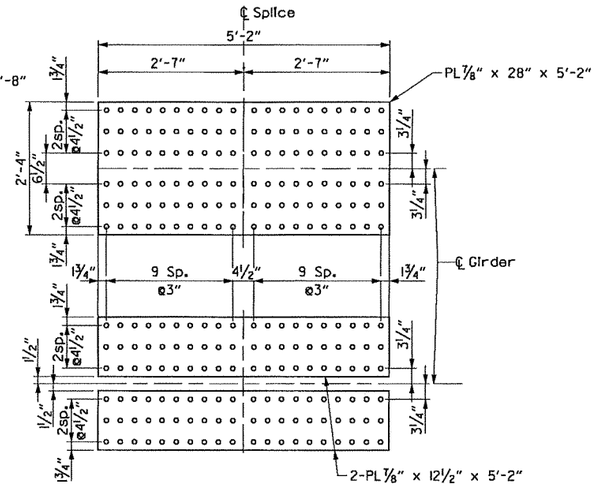


WEB SPLICE TYPE B DETAIL

SCALE: 3/4" = 1'-0"



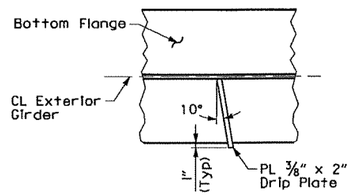
TOP



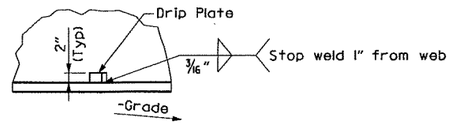
BOTTOM

FLANGE SPLICE TYPE B DETAILS

SCALE: 3/4" = 1'-0"



PLAN



ELEVATION

BOTTOM FLANGE DRIP PLATE

N.T.S.

Note:

Bottom flange drip plate to be welded to the outside flange of the exterior girders only.

Locate drip plate 5'-0" from CL Bearing on the high side of Bents 2-4.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 9 OF 14
DETAILS OF 760' CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

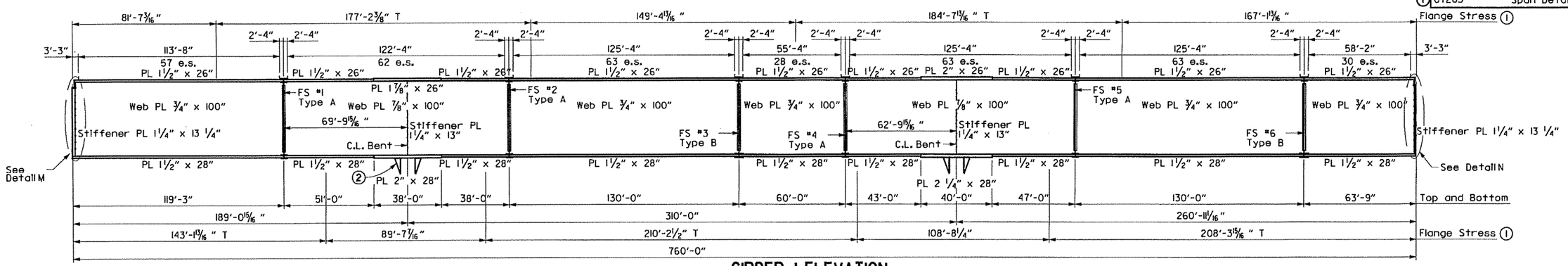
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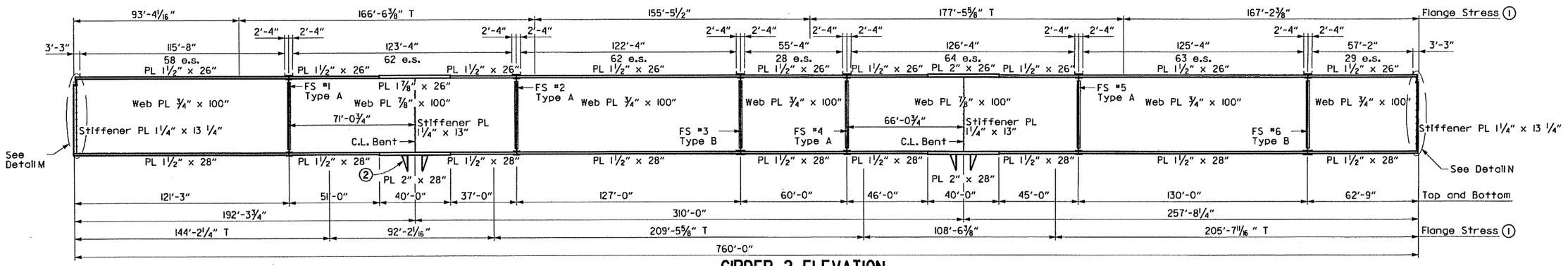
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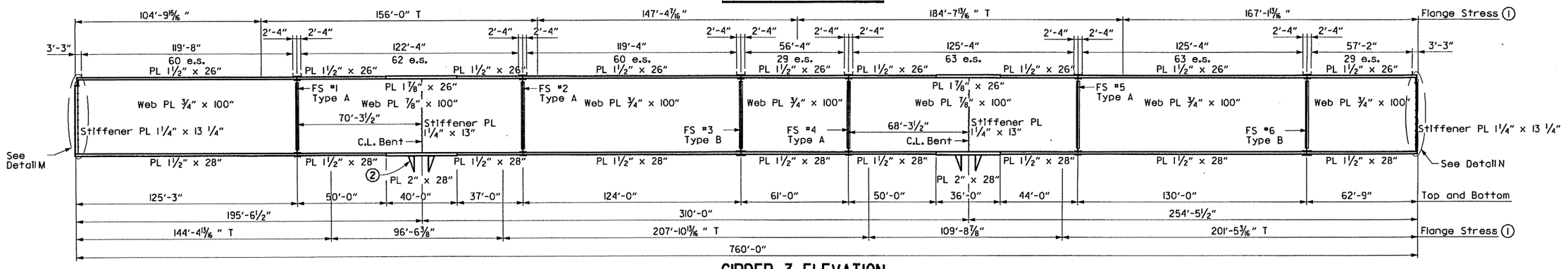
(1) 07263 Span Details 53146



GIRDER 1 ELEVATION



GIRDER 2 ELEVATION

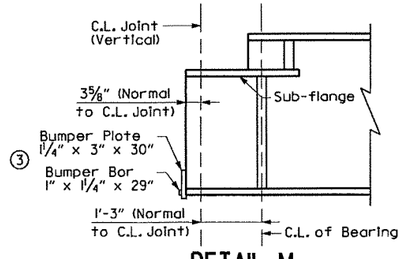


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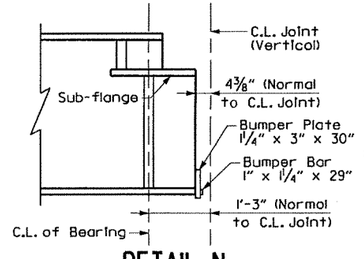
(1) T denotes portions of the flange that may always or may sometimes be in tension.

(2) Field attached Longitudinal Restrainer assembly (Typ.) See details on Dwg.No. 53141

(3) See Bumper Connection Detail on Dwg.No. 53141



DETAIL M
Not to Scale



DETAIL N
Not to Scale

(3) STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER STEPHEN T. SMILEY No. 13072

Stephen T. Smiley

4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 10 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

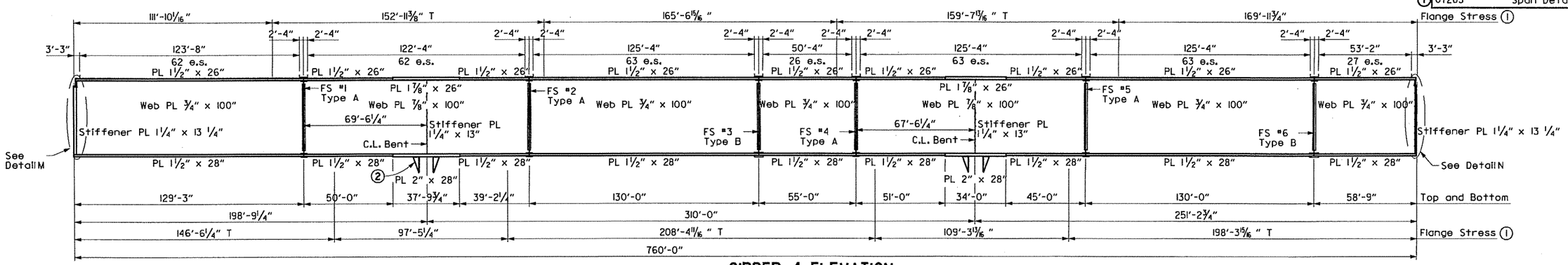
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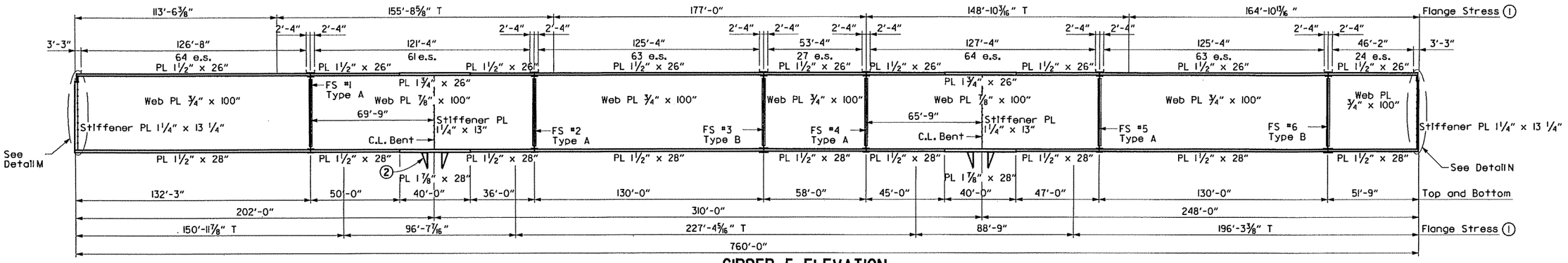
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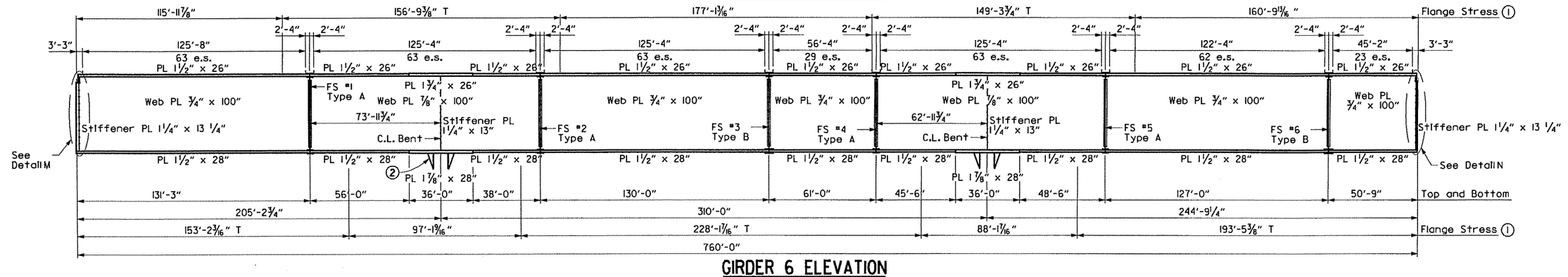
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				JOB NO.		100687	129	252
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GIRDER 4 ELEVATION



GIRDER 5 ELEVATION

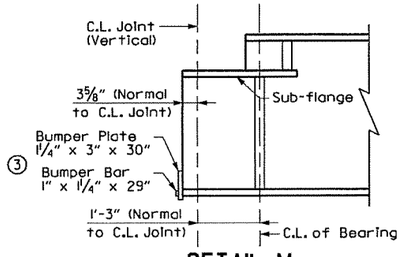


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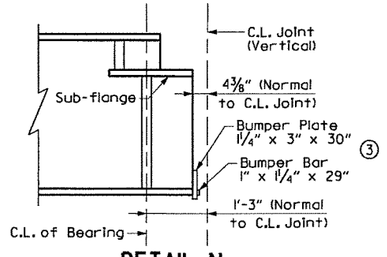
(1) T denotes portions of the flange that may always or may sometimes be in tension

(2) Field attached Longitudinal Restrainer assembly (Typ.) See details on Dwg.No. 53141

(3) See Bumper Connection Detail on Dwg.No. 53141



DETAIL M
Not to Scale



DETAIL N
Not to Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley
4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 11 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

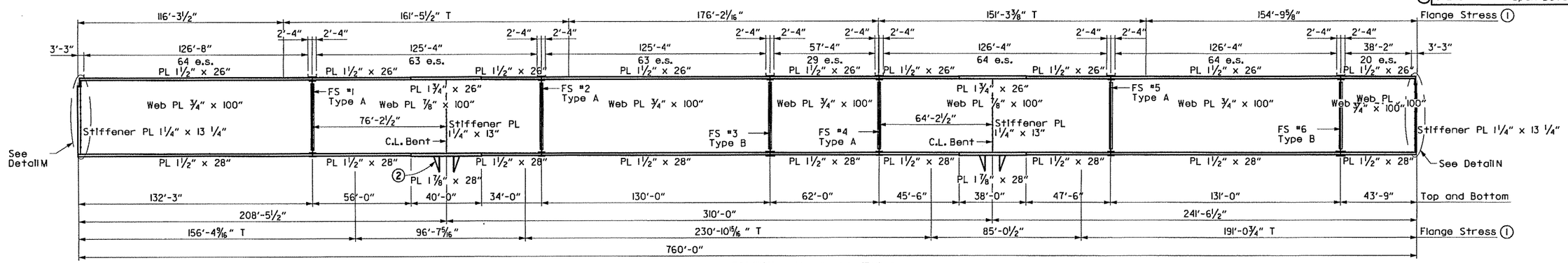
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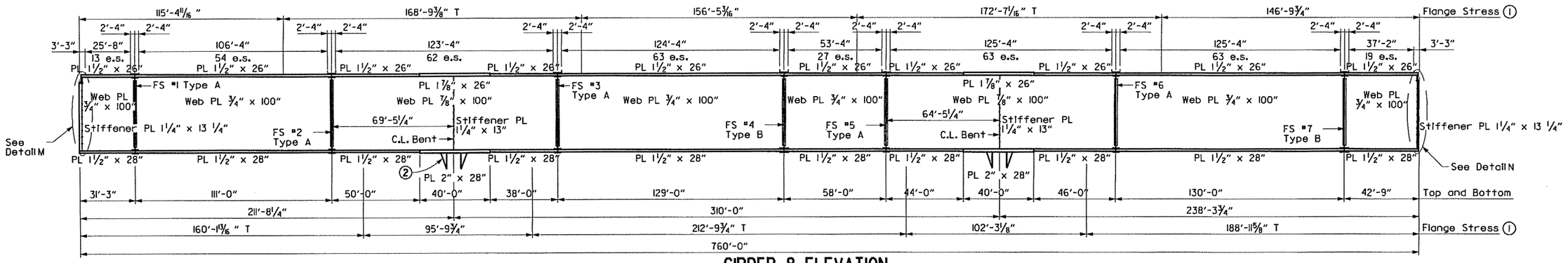
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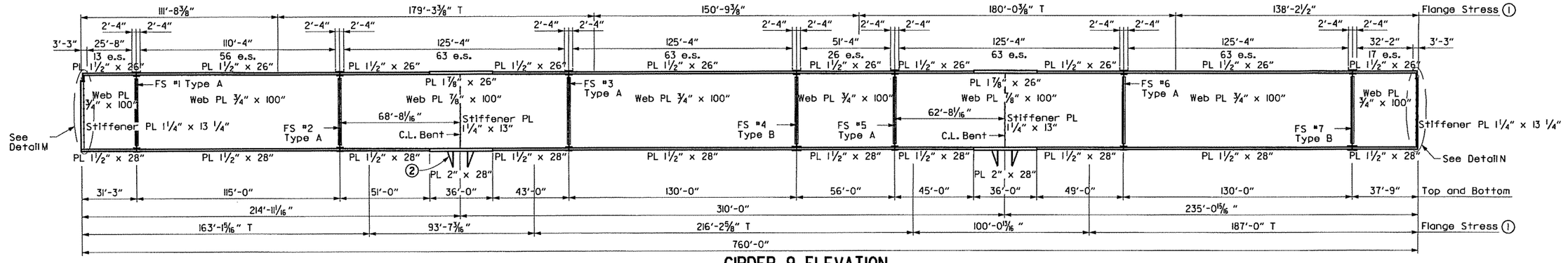
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GIRDER 7 ELEVATION



GIRDER 8 ELEVATION

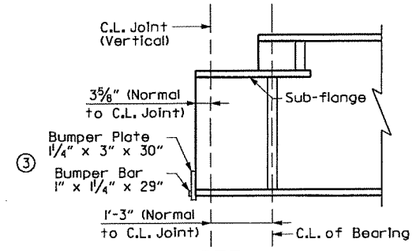


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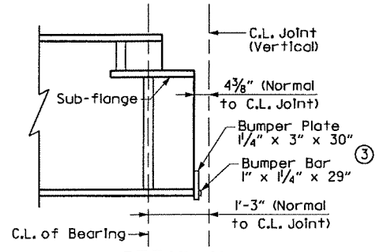
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(3) See Bumper Connection Detail on Dwg.No. 53141



DETAIL M
Not to Scale



DETAIL N
Not to Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 12 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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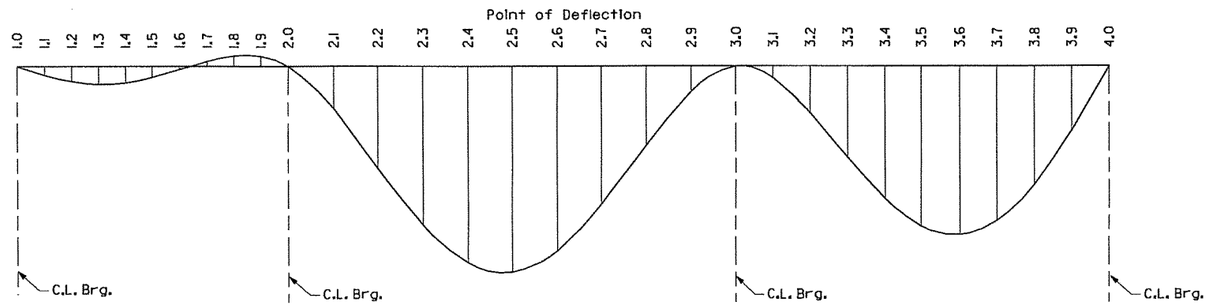
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	131	252
				(1) 07263		Span Details		53149

TABLE OF DEAD LOAD DEFLECTIONS

	Point of Deflection	Vertical Dead Load Deflection (In.)																												
		Structural Steel									Structural Steel + Slab										Structural Steel + Slab + Parapets									
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9		
	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Span 1	1.1	0.151	0.179	0.208	0.235	0.263	0.289	0.315	0.341	0.366	0.395	0.48	0.565	0.644	0.721	0.791	0.857	0.92	0.978	0.436	0.527	0.619	0.705	0.789	0.866	0.94	1.011	1.077		
	1.2	0.258	0.31	0.363	0.414	0.465	0.514	0.563	0.61	0.657	0.671	0.829	0.985	1.134	1.275	1.406	1.529	1.643	1.753	0.74	0.91	1.079	1.241	1.395	1.54	1.677	1.805	1.93		
	1.3	0.309	0.379	0.448	0.516	0.583	0.648	0.71	0.771	0.832	0.797	1.008	1.214	1.41	1.596	1.769	1.927	2.074	2.217	0.88	1.107	1.33	1.543	1.746	1.937	2.113	2.279	2.441		
	1.4	0.288	0.366	0.443	0.52	0.594	0.666	0.734	0.8	0.866	0.73	0.966	1.197	1.418	1.624	1.815	1.987	2.146	2.299	0.807	1.061	1.311	1.551	1.777	1.987	2.179	2.358	2.531		
	1.5	0.199	0.276	0.353	0.429	0.502	0.571	0.637	0.7	0.76	0.484	0.718	0.947	1.165	1.368	1.552	1.718	1.868	2.007	0.536	0.788	1.036	1.273	1.496	1.699	1.884	2.053	2.211		
	1.6	0.068	0.133	0.199	0.266	0.329	0.389	0.445	0.496	0.543	0.129	0.327	0.524	0.715	0.891	1.049	1.19	1.311	1.419	0.146	0.359	0.572	0.78	0.973	1.148	1.305	1.442	1.565		
	1.7	-0.069	-0.02	0.026	0.072	0.12	0.164	0.205	0.241	0.271	-0.234	-0.085	0.051	0.184	0.316	0.434	0.537	0.621	0.688	-0.254	-0.094	0.054	0.198	0.343	0.474	0.589	0.684	0.76		
	1.8	-0.163	-0.133	-0.107	-0.085	-0.063	-0.036	-0.011	0.008	0.021	-0.477	-0.385	-0.307	-0.243	-0.182	-0.111	-0.048	-0.005	0.023	-0.522	-0.423	-0.339	-0.269	-0.202	-0.123	-0.053	-0.004	0.029		
	1.9	-0.159	-0.145	-0.136	-0.134	-0.128	-0.123	-0.117	-0.113	-0.111	-0.449	-0.408	-0.38	-0.372	-0.356	-0.344	-0.329	-0.321	-0.318	-0.493	-0.449	-0.418	-0.409	-0.392	-0.378	-0.361	-0.352	-0.348		
	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Span 2	2.1	0.692	0.687	0.682	0.68	0.679	0.677	0.677	0.676	0.669	1.891	1.879	1.869	1.865	1.863	1.858	1.856	1.85	1.822	2.081	2.066	2.054	2.049	2.046	2.04	2.038	2.032	2.003		
	2.2	1.668	1.668	1.672	1.679	1.689	1.692	1.69	1.686	1.684	4.543	4.556	4.576	4.602	4.632	4.638	4.624	4.599	4.575	4.997	5.008	5.027	5.054	5.085	5.091	5.077	5.052	5.029		
	2.3	2.601	2.612	2.627	2.639	2.65	2.661	2.669	2.679	2.692	7.076	7.126	7.185	7.228	7.262	7.285	7.294	7.297	7.304	7.782	7.831	7.891	7.935	7.97	7.995	8.007	8.014	8.027		
	2.4	3.223	3.239	3.26	3.283	3.306	3.328	3.35	3.372	3.397	8.758	8.829	8.909	8.985	9.051	9.102	9.142	9.173	9.204	9.631	9.701	9.783	9.862	9.932	9.989	10.035	10.074	10.114		
	2.5	3.377	3.403	3.435	3.468	3.502	3.533	3.563	3.595	3.632	9.166	9.268	9.378	9.483	9.576	9.65	9.709	9.764	9.826	10.079	10.183	10.297	10.408	10.508	10.589	10.657	10.723	10.797		
	2.6	3.034	3.07	3.11	3.151	3.192	3.23	3.268	3.306	3.349	8.223	8.349	8.48	8.604	8.715	8.807	8.887	8.961	9.041	9.042	9.173	9.31	9.442	9.562	9.664	9.755	9.841	9.934		
	2.7	2.273	2.319	2.364	2.407	2.448	2.487	2.526	2.568	2.612	6.149	6.296	6.435	6.56	6.67	6.765	6.851	6.941	7.032	6.763	6.918	7.065	7.199	7.319	7.424	7.52	7.623	7.727		
	2.8	1.303	1.345	1.383	1.417	1.452	1.492	1.532	1.57	1.605	3.514	3.642	3.755	3.85	3.941	4.044	4.14	4.226	4.303	3.866	4.002	4.123	4.225	4.325	4.438	4.545	4.641	4.728		
	2.9	0.418	0.439	0.46	0.486	0.514	0.542	0.567	0.589	0.608	1.123	1.184	1.244	1.313	1.387	1.458	1.52	1.574	1.619	1.236	1.301	1.366	1.441	1.522	1.6	1.669	1.729	1.779		
	3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Span 3	3.1	0.193	0.179	0.16	0.134	0.105	0.074	0.043	0.01	-0.022	0.524	0.489	0.443	0.376	0.301	0.219	0.136	0.047	-0.044	0.578	0.539	0.487	0.413	0.33	0.24	0.15	0.053	-0.046		
	3.2	0.771	0.727	0.672	0.611	0.548	0.481	0.41	0.339	0.264	2.089	1.984	1.846	1.691	1.526	1.347	1.155	0.956	0.744	2.3	2.182	2.028	1.856	1.674	1.478	1.268	1.052	0.822		
	3.3	1.503	1.418	1.327	1.231	1.131	1.026	0.919	0.808	0.693	4.076	3.869	3.642	3.397	3.134	2.853	2.557	2.245	1.916	4.484	4.253	4	3.728	3.438	3.13	2.807	2.468	2.112		
	3.4	2.175	2.055	1.933	1.806	1.675	1.54	1.402	1.261	1.116	5.904	5.61	5.305	4.98	4.635	4.271	3.887	3.486	3.071	6.493	6.164	5.824	5.464	5.084	4.685	4.266	3.83	3.381		
	3.5	2.63	2.488	2.345	2.2	2.051	1.898	1.742	1.584	1.424	7.143	6.794	6.436	6.064	5.67	5.255	4.82	4.37	3.91	7.854	7.464	7.065	6.652	6.218	5.764	5.289	4.801	4.303		
	3.6	2.765	2.618	2.471	2.323	2.172	2.018	1.861	1.703	1.545	7.512	7.15	6.782	6.401	6.002	5.582	5.144	4.693	4.236	8.259	7.854	7.444	7.022	6.582	6.122	5.645	5.155	4.66		
	3.7	2.533	2.4	2.267	2.134	1.998	1.861	1.722	1.583	1.444	6.884	6.556	6.223	5.88	5.521	5.146	4.757	4.358	3.954	7.568	7.201	6.83	6.45	6.054	5.644	5.22	4.787	4.349		
	3.8	1.943	1.841	1.741	1.639	1.537	1.434	1.329	1.225	1.121	5.28	5.031	4.779	4.518	4.246	3.963	3.67	3.37	3.068	5.804	5.526	5.245	4.956	4.656	4.346	4.027	3.701	3.375		
	3.9	1.059	1.004	0.949	0.894	0.839	0.783	0.727	0.67	0.615	2.878	2.743	2.606	2.464	2.317	2.164	2.006	1.844	1.682	3.164	3.013	2.86	2.703	2.541	2.373	2.201	2.025	1.85		
	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Note:
Camber for Dead Load Deflection plus Vertical curve ± 1/4 " tolerance.
Deflections shown are from a chord from ℄ Bearing to ℄ Bearing.
Vertical curve corrections not included. Negative sign (-) indicates point above chord.



DEAD LOAD DEFLECTION DIAGRAM

NO SCALE

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 13 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

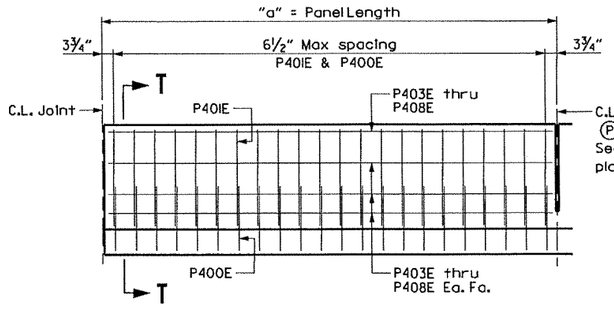
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CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: ST DATE: 5/15/12
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BRIDGE NO. 07263 DRAWING NO. 53149

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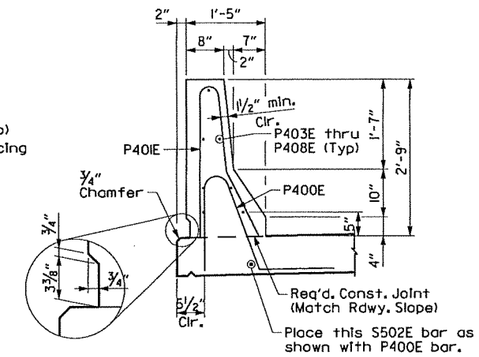
(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab.

(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.



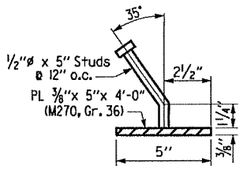
DETAILS OF CLOSED PARAPET RAIL

½" = 1'-0"



SECTION T-T

¾" = 1'-0"

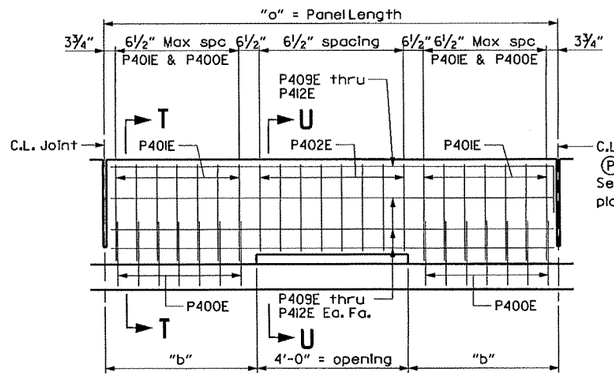


DETAIL Z

No Scale

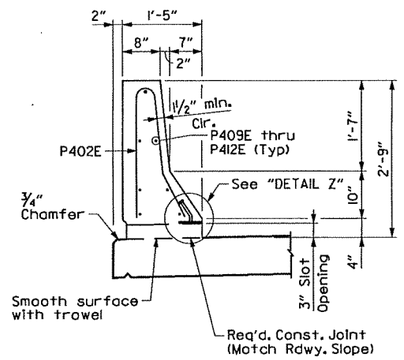
Note:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plates shall be measured and paid for as "Structural Steel in Plate Girder Spans (M270, Gr.50W)".

The surfaces of the ⅜" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to item "Structural Steel in Plate Girder Spans (M270, Gr.50W)"



DETAILS OF OPEN PARAPET RAIL

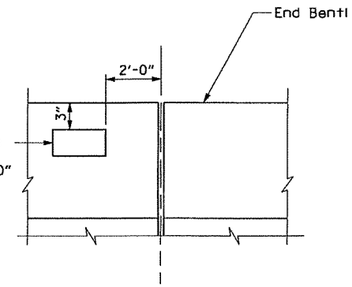
½" = 1'-0"



SECTION U-U

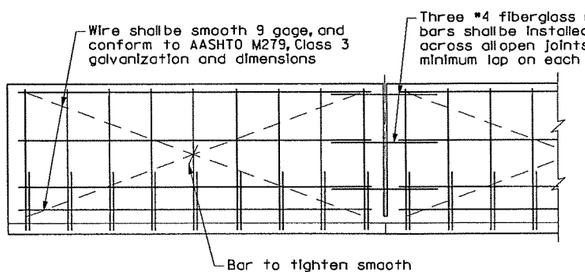
¾" = 1'-0"

Place Type D Bridge Nome Plate on right parapet rail at the Beginning of Bridge approx. 2'-0" from joint.

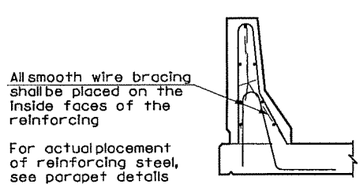


NAME PLATE DETAIL

No Scale



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale

PARAPET RAIL VARIABLES

Parapet Type	"a"	"b"	Longitudinal Reinforcing
Closed-E	13'-5 3/4"		P403E
Closed-E	13'-9 1/4"		P404E
Closed-E	13'-9 7/16"		P405E
Closed	13'-5 3/4"		P406E
Closed	13'-9 1/4"		P407E
Closed	13'-9 7/16"		P408E
Open	13'-5 3/4"	4'-8 7/8"	P409E
Open	13'-15/8"	4'-6 13/16"	P410E
Open	13'-9 7/16"	4'-10 11/16"	P411E
Open	13'-9 1/4"	4'-10 5/8"	P412E

Types denoted with a -E suffix are adjacent to C.L. of Deck Joints

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	132	252
				(1) 07263		Span Details		53150

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 14 OF 14
DETAILS OF 760' CONTINUOUS
COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ST DATE: 8/20/12
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FILENAME: b100687_sl14
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53150

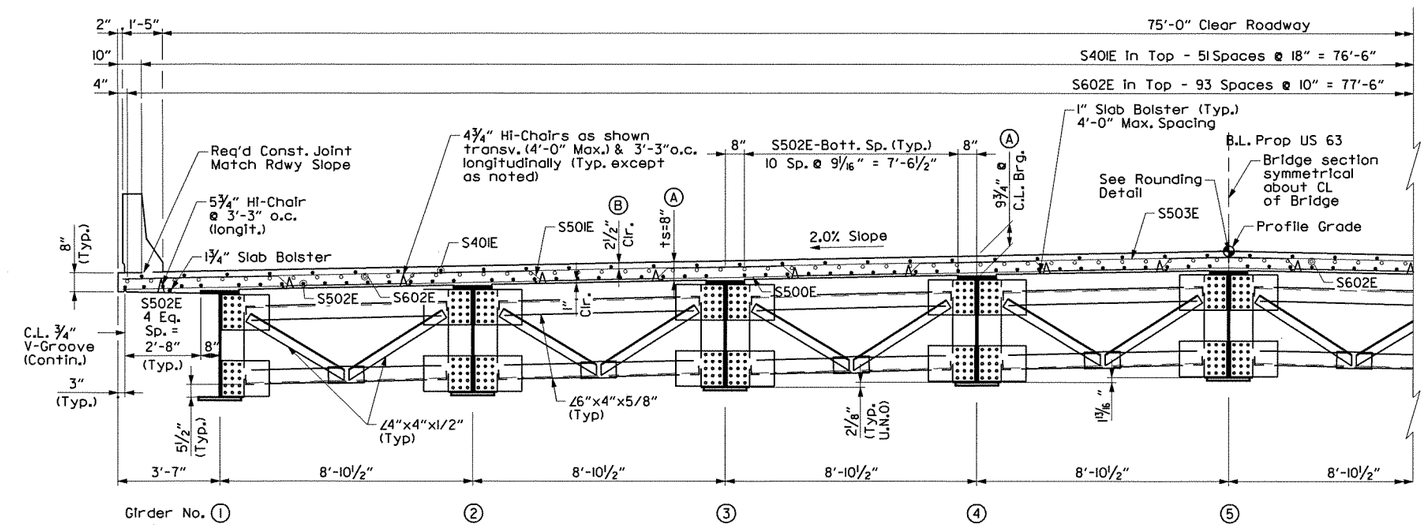
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	133	252

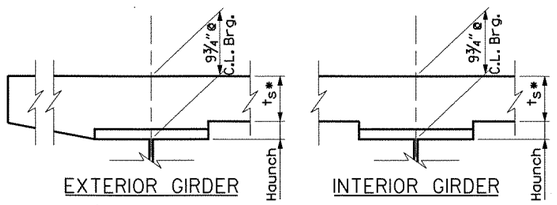
(1) 07263 Span Details 53151

STATE OF ARKANSAS
STEPHEN T. SMILEY
REGISTERED PROFESSIONAL ENGINEER
No. 13072
6 Sept 2012



TYPICAL ROADWAY SECTION

Looking Ahead
Scale: ⅜" = 1'-0"

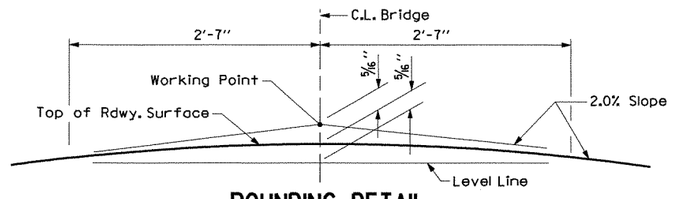


Note: ts = slab thickness as shown on "TYPICAL SECTION"
* Tolerance when removable deck forming is used is +1/2", -1/4".
Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERENCE WHEN REMOVABLE DECK FORMING IS USED

No Scale

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance; Minimum - occurs when the top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.
Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.



ROUNDING DETAIL

Looking Ahead
N.T.S.

(A) See "Adjustment for Slab Thickness Tolerance"

(B) Tolerance Minus = ¼"
Plus equal to amount of slab thickening used to meet thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

(C) See "Table for Weld" for minimum weld size.

NOTES:

One Epoxy Coated #5 bar in the top and one Epoxy Coated #5 bar in the bottom may be substituted for each bar S501E. Payment will be based on the weight of bar S501E.

Class 1 Protective Surface Treatment shall be applied to the Roadway Surface and the face and top of parapet rail.

All bars designated with an E suffix are to be epoxy coated.

A Horizontal Const. Jt. is req'd Between the Slab and Cast in Place Diaphragms.

SLAB REINFORCING:

Transverse:
S503E @ 13" Centers (Top)
S601E @ 13" Centers (Top Overhang)
S501E @ 13" Centers (Bent up over beam)
S500E @ 13" Centers (bottom)

Longitudinal:
S401E @ 18" Centers (Top Temperature)
S602E @ 10" Centers (Top)
S502E @ place as shown (Bottom)

EXPANSION DEVICE @ BENTS 4,7,10,13,16,19

4" Finger Joint
Roadway Channel C15x33.9
Channel Conn. - WT 10.5x31
Finger Joint - 4" Movement
Detail Device ⅛" high and provide ¼" shims using 1 - ⅛" PL & 2 - 1/16" PL's

For Additional Details of Expansion Device, See Dwg. No. 53164

EXPANSION DEVICE @ BENT 22

Neoprene Strip Seal with Steel Extrusion
Roadway Channel C15x33.9 Conn. ∠'s 7"x4"x½"
Detail Device ⅛" high and provide ¼" shims using 1 - ⅛" PL & 2 - 1/16" PL's

For Additional Details of Expansion Device, See Dwg. No. 53165

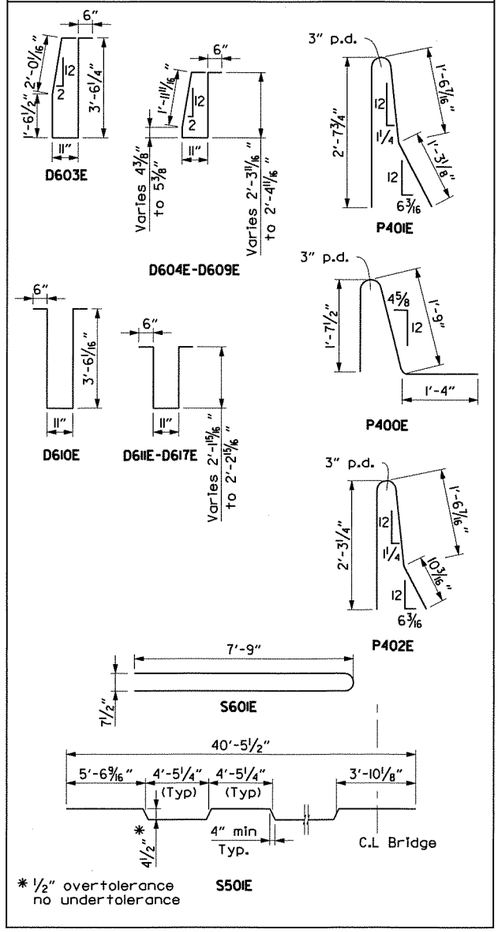
BAR LIST FOR EACH OF UNITS 2 - 6

Mark	No. Req'd.	Length	Pin Dia.
S401E	468	36'-1"	Str.
S500E	562	40'-7"	Str.
S501E	560	41'-4"	3"
S502E	588	53'-4"	Str.
S503E	562	40'-7"	Str.
S601E	560	15'-10"	6"
S602E	564	53'-10"	Str.
P400E	952	4'-10"	2"
P401E	952	5'-7"	2"
P402E	208	4'-9"	2"
P403E	28	15'-0"	Str.
P404E	28	15'-2"	Str.
P405E	28	16'-8"	Str.
P406E	112	15'-2"	Str.
P407E	70	16'-8"	Str.
D601E	192	2'-0"	Str.
D602E	304	8'-4"	Str.
D603E	152	8'-3"	Str.
D604E to D609E	8 ea.	5'-10" to 6'-0"	4 1/2"
D610E	152	8'-3"	4 1/2"
D611E to D617E	8 ea.	5'-6" to 5'-8"	4 1/2"

BAR LIST UNIT 7

Mark	No. Req'd.	Length	Pin Dia.
S401E	468	36'-2"	Str.
S500E	562	40'-7"	Str.
S501E	562	41'-4"	3"
S502E	588	53'-5"	Str.
S503E	562	40'-7"	Str.
S601E	562	15'-10"	6"
S602E	564	53'-11"	Str.
P400E	952	4'-10"	2"
P401E	952	5'-7"	2"
P402E	208	4'-9"	2"
P403E	28	15'-0"	Str.
P404E	28	15'-2"	Str.
P405E	28	16'-8"	Str.
P406E	112	15'-2"	Str.
P407E	70	16'-8"	Str.
D601E	192	2'-0"	Str.
D602E	304	8'-4"	Str.
D603E	152	8'-3"	Str.
D604E to D609E	8 ea.	5'-10" to 6'-0"	4 1/2"
D610E	152	8'-3"	4 1/2"
D611E to D617E	8 ea.	5'-6" to 5'-8"	4 1/2"

Bending Diagrams
(Dimensions are out to out of bars)



BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 9
DETAILS OF 305' CONTINUOUS COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

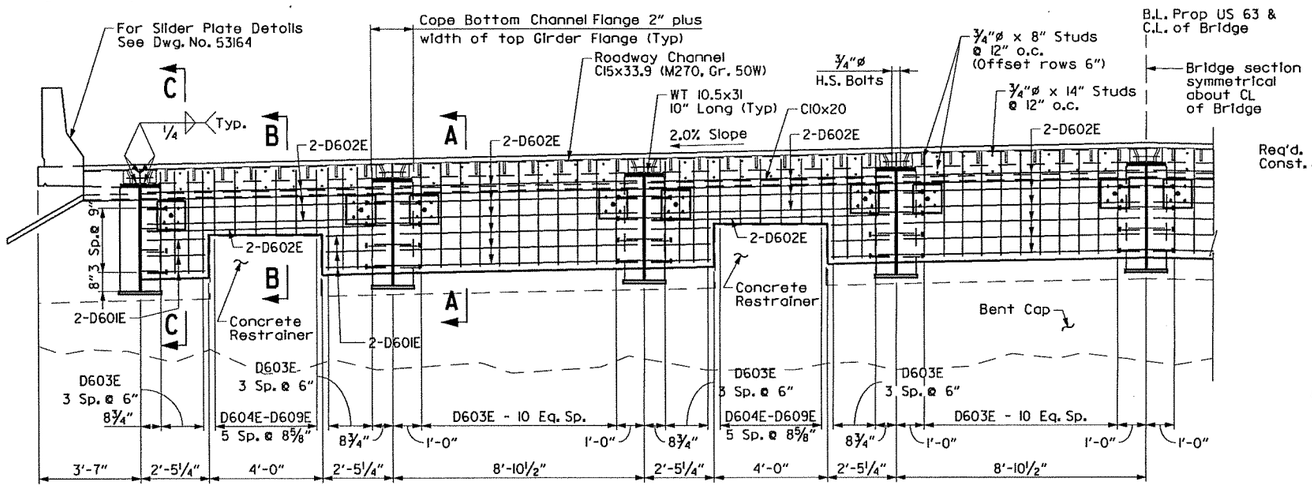
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53151

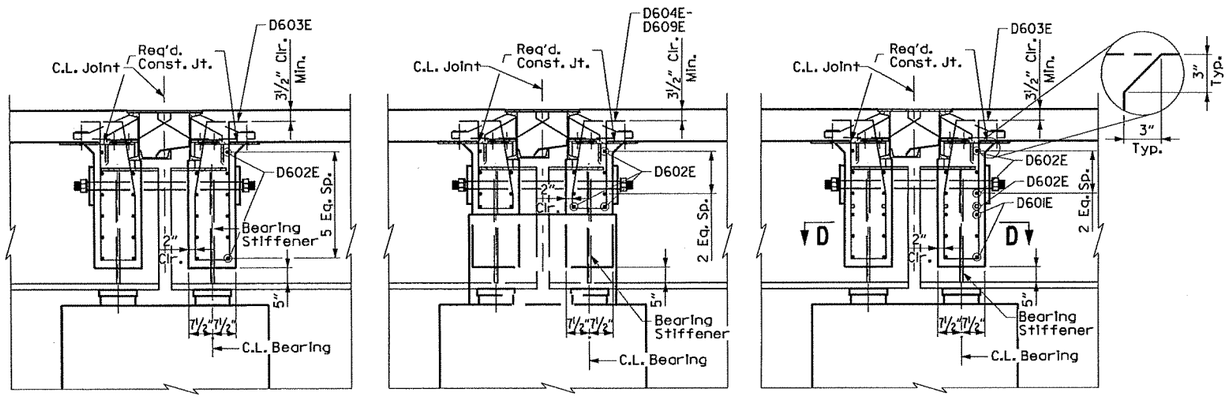
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Note: ½" Polystyrene may be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place.



TYPICAL SECTION NEAR FINGER JOINT

Looking Ahead
Scale: ⅜" = 1'-0"



SECTION A-A @ BENTS 7, 10, 13, 16 & 19

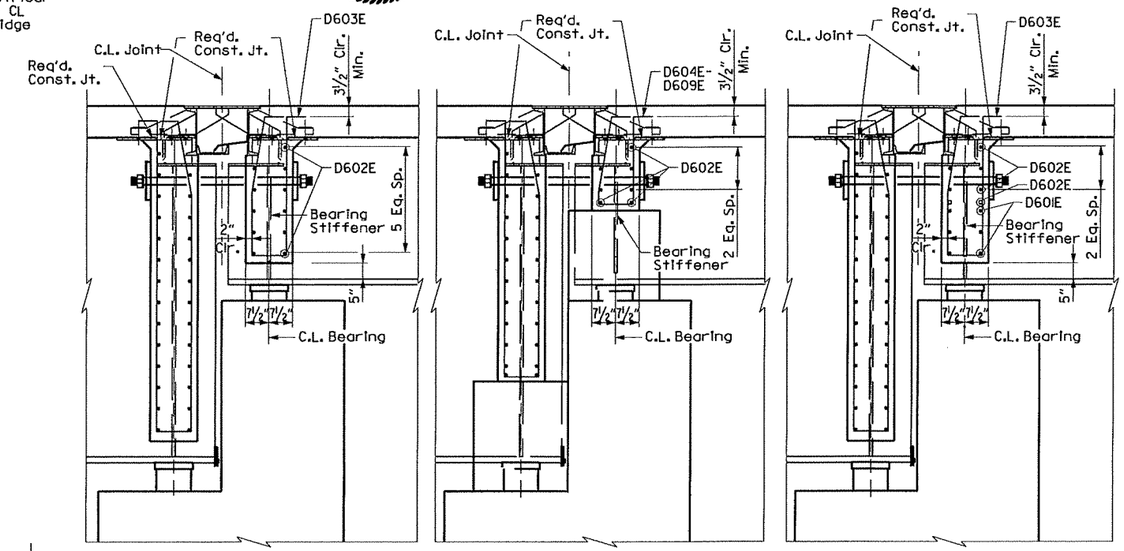
Scale: ½" - 1'-0"

SECTION B-B @ BENTS 7, 10, 13, 16 & 19

Scale: ½" - 1'-0"

SECTION C-C @ BENTS 7, 10, 13, 16 & 19

Scale: ½" - 1'-0"



SECTION A-A @ BENT 4

Scale: ½" - 1'-0"

SECTION B-B @ BENT 4

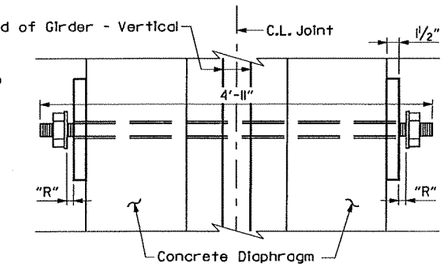
Scale: ½" - 1'-0"

SECTION C-C @ BENT 4

Scale: ½" - 1'-0"

Note: Gap width shall not be set until the deck of the adjacent units has been placed. After gap width has been set, tack weld heavy hex nut to restrainer rod.

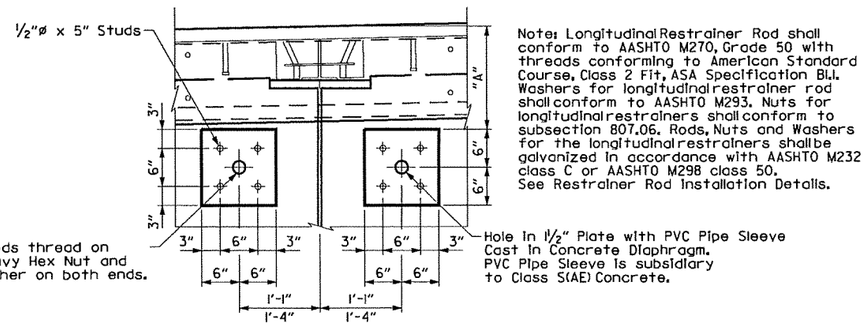
Bent No.(s)	"R" - Gap Width at 24 hour Average Temperature of:		
	40°F	60°F	80°F
7,10,13,16,19	½"	¾"	1"



RESTRAINER ROD INSTALLATION DETAIL

N.T.S.

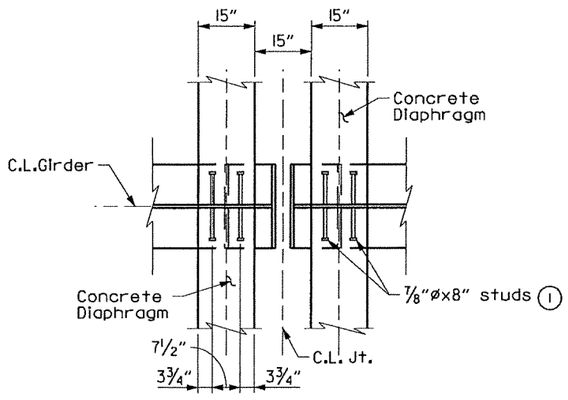
Bent	"A"	Rod Size	Rod Thread Length	Hole ø in 1½" PL	PVC PIPE SLEEVE ø
4	1'-3¾"	3"ø x 5'-2¼"	7½"	3¼"	3½"
7,10,13 16&19	1'-2½"	2¼"ø x 4'-11"	4¾"	2½"	2½"



Note: Longitudinal Restrainer Rod shall conform to AASHTO M270, Grade 50 with threads conforming to American Standard Course, Class 2 Fit, ASA Specification B.I. Washers for longitudinal restrainer rod shall conform to AASHTO M293. Nuts for longitudinal restrainers shall conform to subsection 807.06. Rods, Nuts and Washers for the longitudinal restrainers shall be galvanized in accordance with AASHTO M232 class C or AASHTO M298 class 50. See Restrainer Rod Installation Details.

RESTRAINER BOLT ASSEMBLY DETAIL

N.T.S.



SECTION D-D

NOT TO SCALE

(1) Omit studs on outside of Exterior Girders.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	134	252

(1) 07263 Span Details 53152

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 9
DETAILS OF 305' CONTINUOUS COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/20/12	FILENAME:	b100687_s202
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	ST	DATE:	5/15/12		

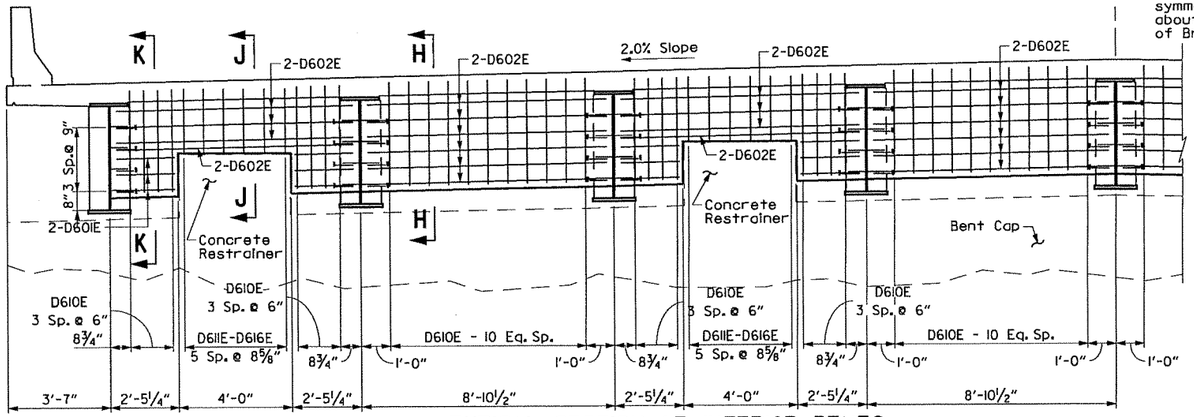
BRIDGE NO. 07263 DRAWING NO. 53152

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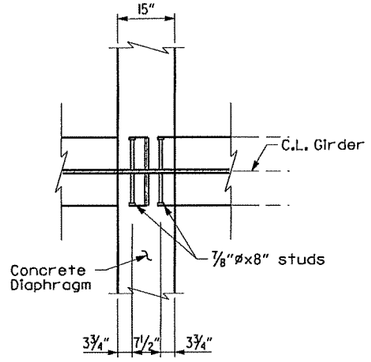
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	135	252
				(1) 07263		Span Details		53153

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



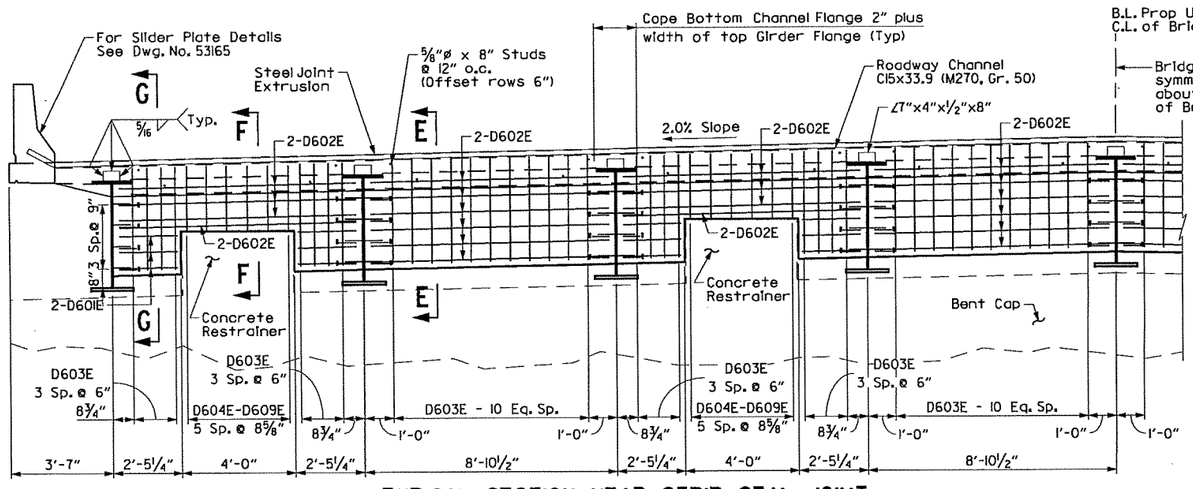
TYPICAL SECTION AT INTERIOR BENTS

Looking Ahead
Scale: ⅜" = 1'-0"



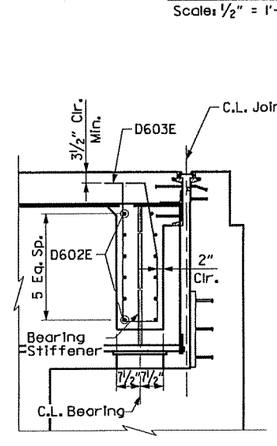
SECTION L-L

Scale: ½" = 1'-0"



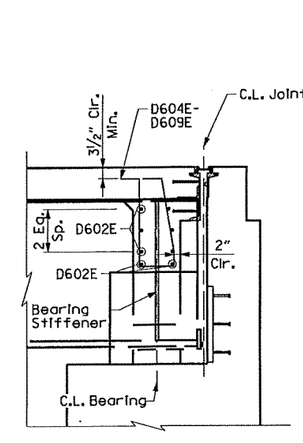
TYPICAL SECTION NEAR STRIP SEAL JOINT

Looking Ahead
Scale: ⅜" = 1'-0"



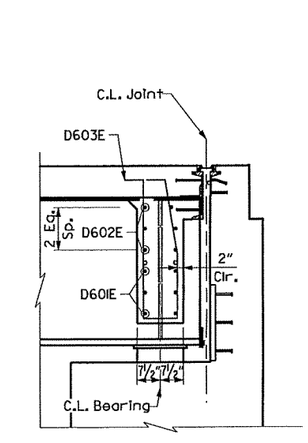
SECTION E-E @ END BENT

Scale: ½" = 1'-0"



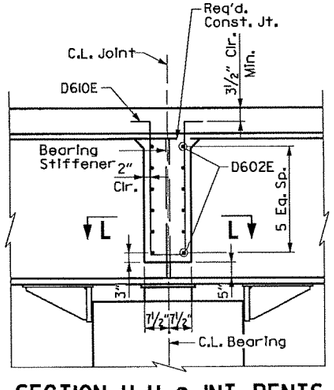
SECTION F-F @ END BENT

Scale: ½" = 1'-0"



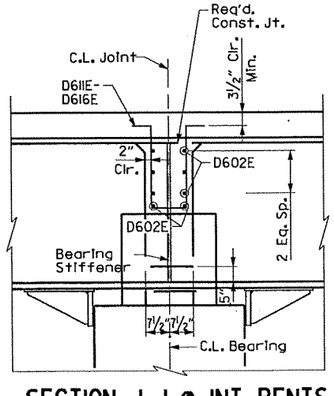
SECTION G-G @ END BENT

Scale: ½" = 1'-0"



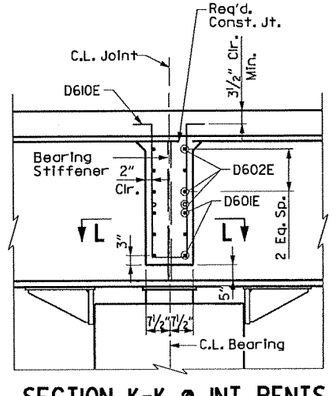
SECTION H-H @ INT BENTS

Scale: ½" = 1'-0"



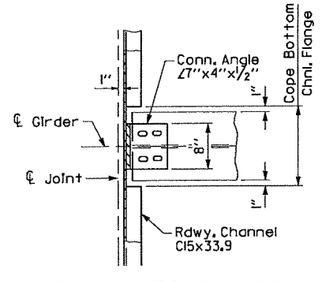
SECTION J-J @ INT BENTS

Scale: ½" = 1'-0"



SECTION K-K @ INT BENTS

Scale: ½" = 1'-0"



CHANNEL CONNECTION DETAIL @STRIP SEAL JOINT

No Scale

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 9
DETAILS OF 305' CONTINUOUS
COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53153

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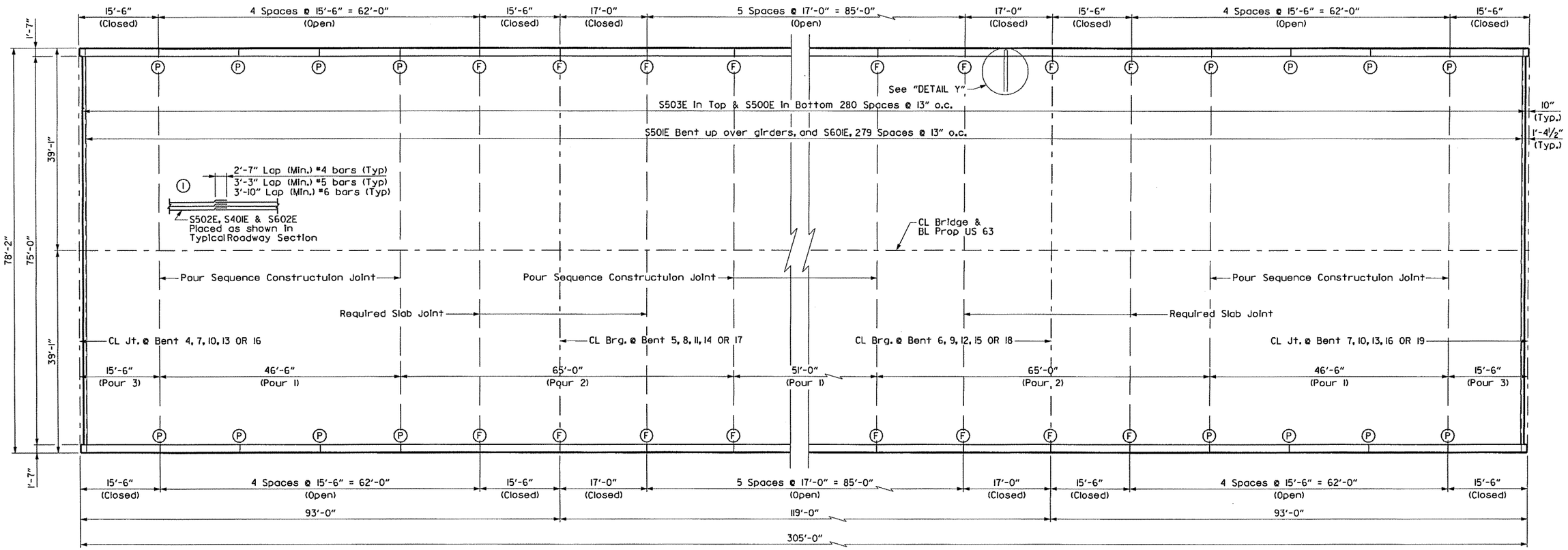
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STATE OF ARKANSAS
STEPHEN T. SMILEY
No. 13073
REGISTERED PROFESSIONAL ENGINEER

4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	136	252
(1) 07263		Span Details		53154



REINFORCING PLAN & POURING SEQUENCE

SCALE: 1" = 10'

All longitudinal dimensions measured to centerline of joint or transverse reinforcing.

(1) Min Laps also applicable to splices in Transverse Reinforcing.

(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab.

(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

Note: Pours must be made in order as numbered. Pours with the same number may be placed simultaneously or separately. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of the adjacent paur. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in bridge superstructure shall be consolidated for the entire paur before any concrete has taken its initial set. This may require the use of a retarding agent.

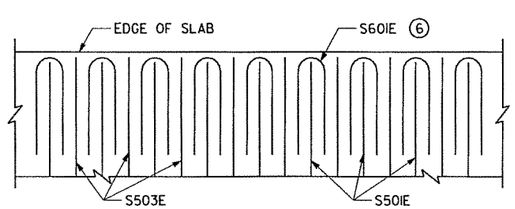
The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Note: Required slab joints and pouring sequence joints shall align with parapet open joint at the gutter line.



SLAB JOINT DETAIL
No Scale

1/2" x 1" Type 3, 4 or 6 Joint Sealer. See subsection 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab Joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set up to allow the sawing of joint without damage to the slab. Slab Joints shall be placed at all Pouring Sequence Construction Joints and Required Slab Joint Locations.



DETAIL Y
No Scale

(6) Spaced equally between S503E and S501E

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 9
DETAILS OF 305' CONTINUOUS COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/20/12	FILENAME:	b100687_s204
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	ST	DATE:	5/15/12		

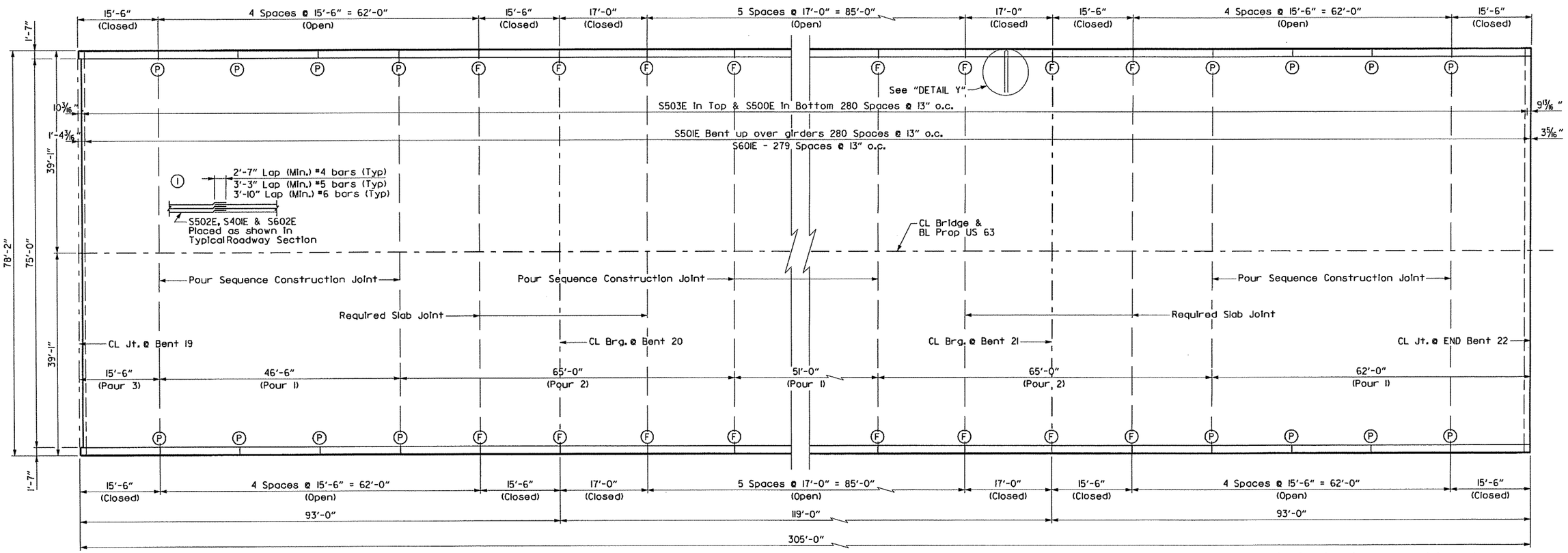
BRIDGE NO. 07263 DRAWING NO. 53154

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	137	252
(I) 07263		Span Details		53155

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



REINFORCING PLAN & POURING SEQUENCE

SCALE: 1" = 10'

All longitudinal dimensions measured to centerline of joint or transverse reinforcing.

(I) Min Laps also applicable to splices in Transverse Reinforcing.

(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab.

(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

Note: Pours must be made in order as numbered. Pours with the same number may be placed simultaneously or separately. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of the adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

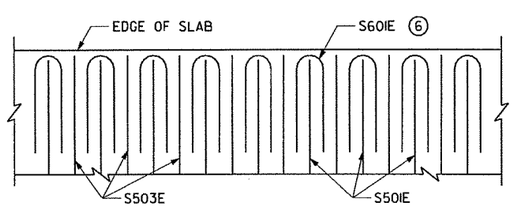
The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Note: Required slab joints and pouring sequence joints shall align with parapet open joint at the gutter line.



SLAB JOINT DETAIL
No Scale

1/2" x 1" Type 3, 4 or 6 Joint Sealer. See subsection 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab Joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set up to allow the sawing of joint without damage to the slab. Slab Joints shall be placed at all Pouring Sequence Construction Joints and Required Slab Joint Locations.



DETAIL Y
No Scale

(6) Spaced equally between S503E and S501E Not spaced around last S501E at Bent 22.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 5 OF 9
DETAILS OF 305' CONTINUOUS COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/20/12	FILENAME:	b100687_s205
CHECKED BY:	LK	DATE:	8/22/12	SCALE:	AS SHOWN
DESIGNED BY:	ST	DATE:	5/15/12		

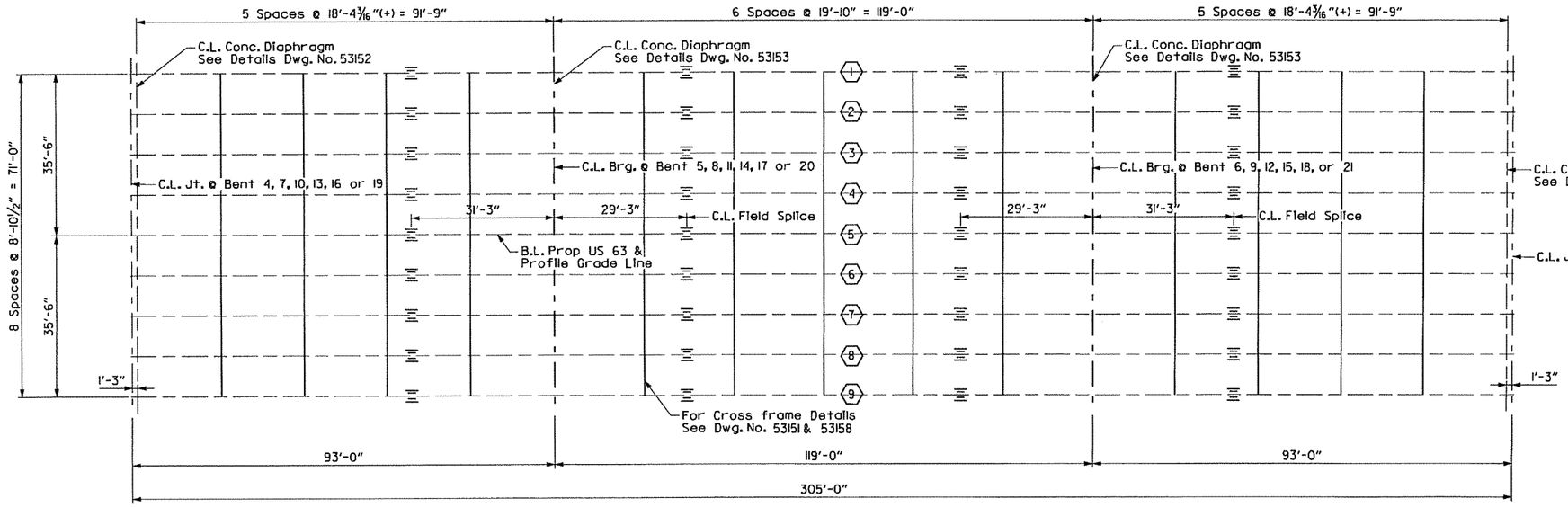
BRIDGE NO. 07263 DRAWING NO. 53155

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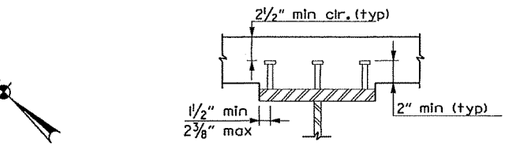
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	138	252
				(1) 07263		Span Details		53156

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

(X) Girder number



FRAMING PLAN
SCALE: 1" = 15'



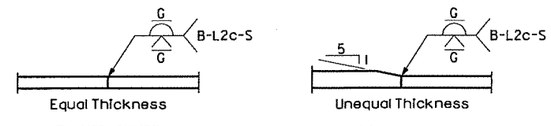
Stud Shear Connectors shown shall be 7/8" dia. x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. 3/4" dia. studs may be used in place of the 7/8" dia. studs shown, at the ratio of 1.361-3/4" dia. studs in place of one 7/8" dia. stud. 1/8" dia. studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

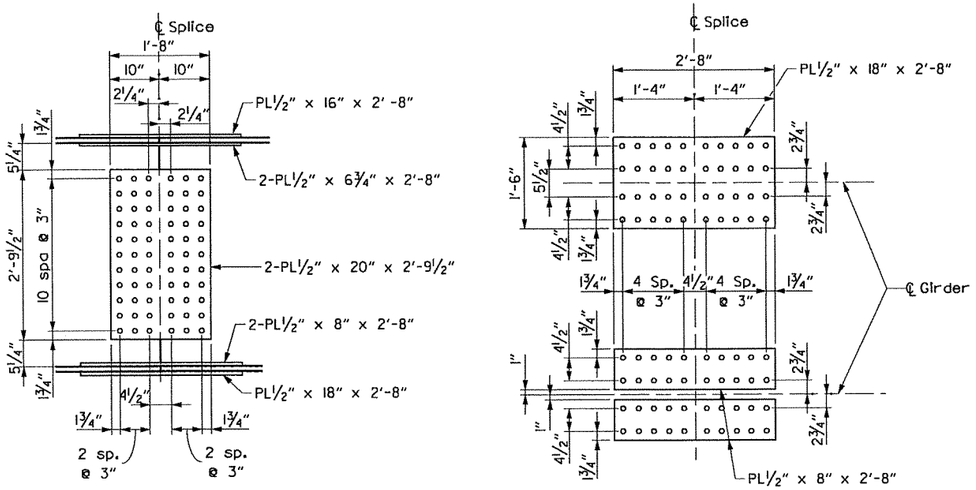
SHEAR CONNECTOR DETAIL
Not to Scale

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.





DETAILS OF BOLTED FIELD SPLICE
Not to Scale

DETAILS OF WELDED SPLICES
Not to Scale

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 6 OF 9
DETAILS OF 305' CONTINUOUS
COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ST DATE: 8/20/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: ST DATE: 5/15/12
FILENAME: b100687_s206
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53156

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① Bumper plate and Bumper bar apply only at Bent 22.

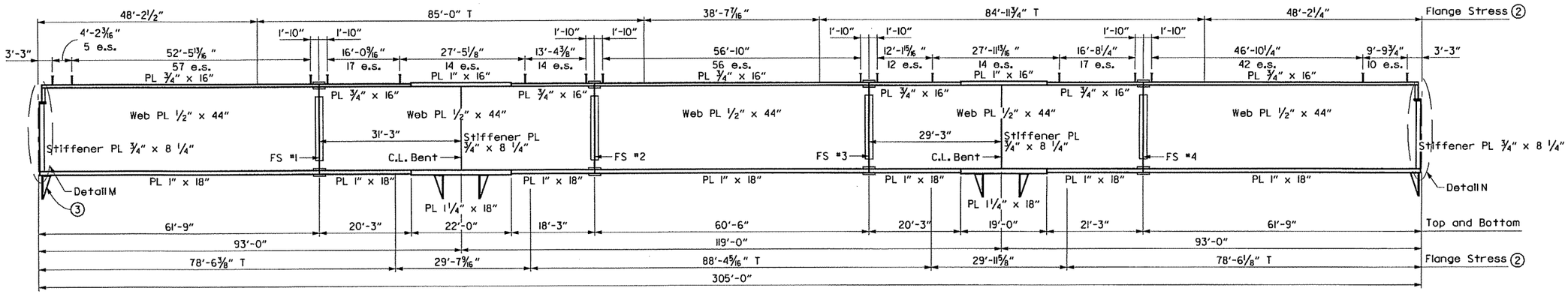
② T denotes portions of the flange that may always or may sometimes be in tension

③ Field attached Longitudinal Restrainer assembly (Typ.) See details on Dwg.No. 53158

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

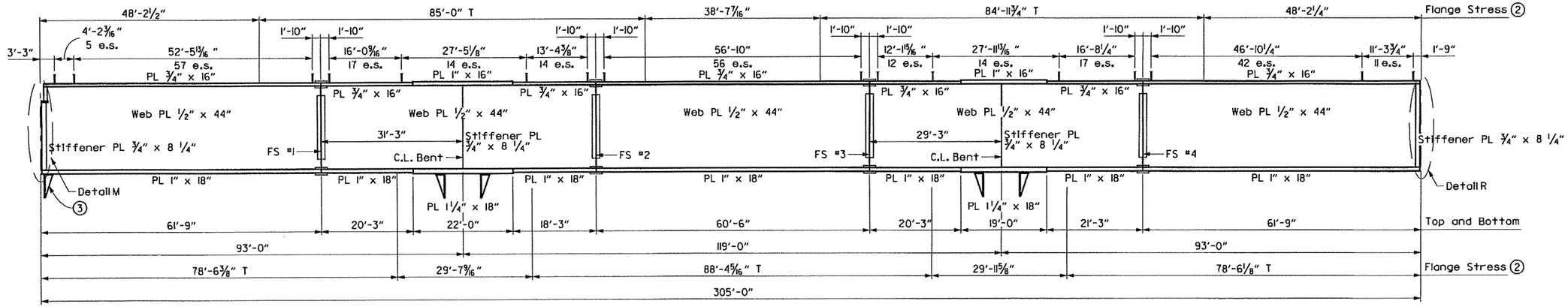
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	139	252
① 07263		Span Details		53157



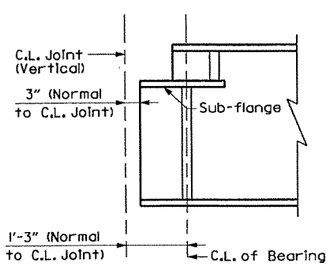
GIRDERS 1 - 9 ELEVATION

UNITS 2 - 6



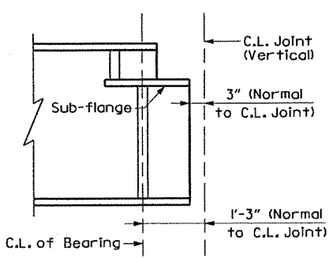
GIRDERS 1 - 9 ELEVATION

UNIT 7



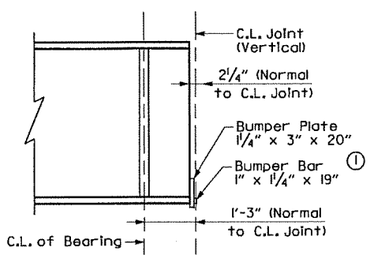
DETAIL M

Not to Scale



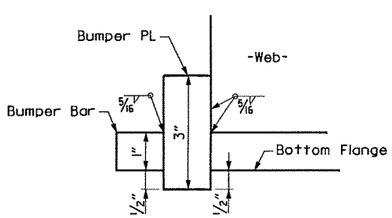
DETAIL N

Not to Scale



DETAIL R

Not to Scale



BUMPER CONNECTION DETAIL ①

(Not to Scale)

Note: Bumpers shall be Horizontally centered on each Girder line.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 7 OF 9
DETAILS OF 305' CONTINUOUS
COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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BRIDGE NO. 07263 DRAWING NO. 53157

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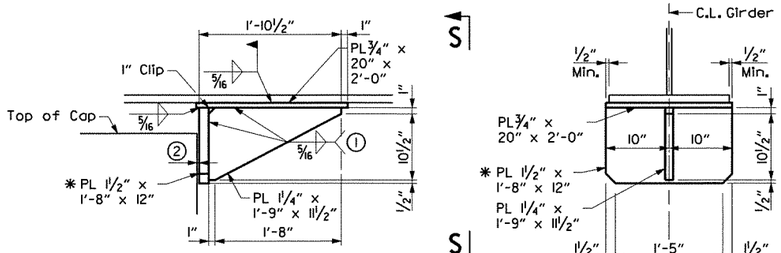
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				6	ARK.			
				JOB NO.		100687	140	252
				(1) 07263		Span Details		53158

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

6 Sept 2012

TABLE OF DEAD LOAD DEFLECTIONS

	Point of Deflection	Vertical Dead Load Deflection (In.)					
		Structural Steel		Steel + Slab		Stl+Slb+Parapets	
		Ext	Int	Ext	Int	Ext	Int
Span 4, 7, 10, 13, 16, 19	1.0	0	0	0	0	0	0
	1.1	0.096	0.103	0.501	0.539	0.545	0.582
	1.2	0.167	0.18	0.874	0.94	0.952	1.016
	1.3	0.214	0.23	1.118	1.203	1.217	1.3
	1.4	0.237	0.255	1.234	1.329	1.344	1.436
	1.5	0.226	0.244	1.173	1.265	1.277	1.367
	1.6	0.185	0.2	0.952	1.029	1.037	1.112
	1.7	0.133	0.144	0.679	0.735	0.74	0.794
	1.8	0.064	0.07	0.318	0.348	0.346	0.376
	1.9	0.025	0.028	0.12	0.133	0.131	0.143
Span 5, 8, 11, 14, 17, 20	2.0	0	0	0	0	0	0
	2.1	0.049	0.051	0.275	0.289	0.3	0.314
	2.2	0.151	0.159	0.837	0.884	0.914	0.96
	2.3	0.256	0.27	1.409	1.491	1.538	1.617
	2.4	0.338	0.357	1.854	1.962	2.023	2.127
	2.5	0.372	0.393	2.038	2.157	2.223	2.338
	2.6	0.345	0.364	1.89	1.999	2.062	2.167
	2.7	0.269	0.284	1.477	1.563	1.612	1.695
	2.8	0.164	0.173	0.905	0.956	0.988	1.037
	2.9	0.066	0.069	0.368	0.388	0.402	0.421
Span 6, 9, 12, 15, 18, 21	3.0	0	0	0	0	0	0
	3.1	0.011	0.012	0.046	0.052	0.05	0.056
	3.2	0.063	0.069	0.316	0.345	0.344	0.373
	3.3	0.117	0.127	0.593	0.644	0.646	0.696
	3.4	0.184	0.199	0.949	1.026	1.034	1.109
	3.5	0.219	0.236	1.134	1.223	1.235	1.322
	3.6	0.236	0.255	1.231	1.327	1.341	1.434
	3.7	0.217	0.233	1.132	1.218	1.233	1.316
	3.8	0.167	0.179	0.873	0.938	0.951	1.014
	3.9	0.095	0.103	0.5	0.538	0.544	0.581
	4.0	0	0	0	0	0	0



(1) Stop weld ½" from clip.

(2) ¾" at Exp. Bents 4, 7, 10, 13, 16, & 19.
¼" at Fix. Bents 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20, & 21.
Gap measured perpendicular to cap.

LONGITUDINAL RESTRAINER DETAILS

Scale: 1" = 1'-0"

* Longitudinal restrainer shall be fabricated to account for grade so as the final position of this plate will be vertical. Longitudinal restrainer shall not be welded to flange until after deck is poured.

SECTION S-S

Scale: 1" = 1'-0"

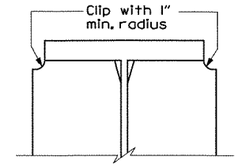
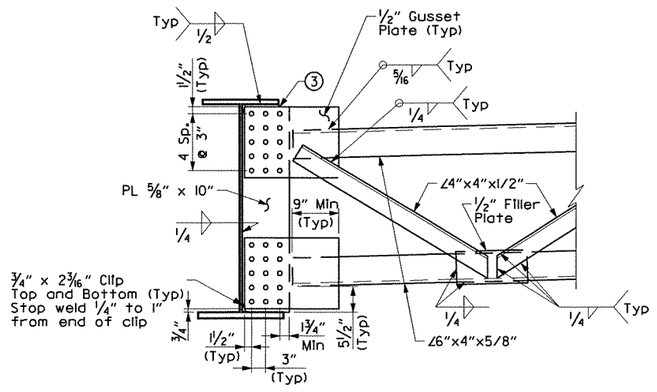


PLATE CLIP DETAIL

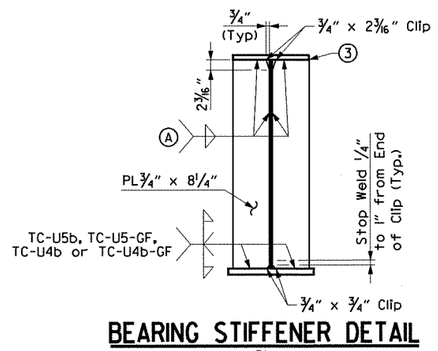
Not to Scale



TYPICAL CROSSFRAME CONNECTION

SCALE: ¾" = 1'-0"

(3) See "PLATE CLIP DETAIL" on this sheet.
At crossframes, top of gusset flush with bottom of clip.

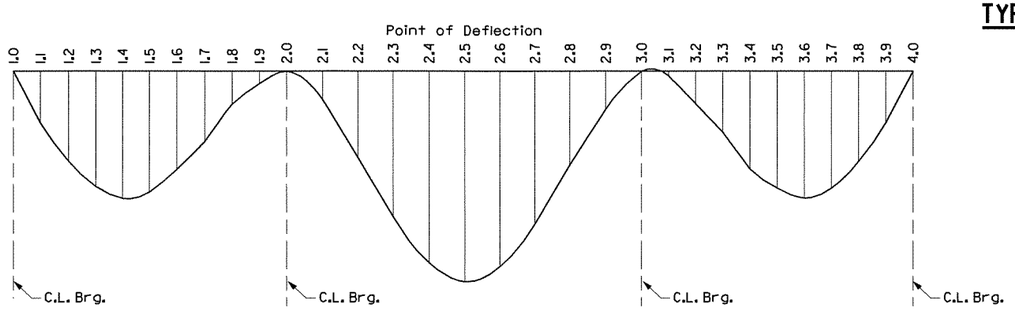


BEARING STIFFENER DETAIL

SCALE: ¾" = 1'-0"

Note:
Bearing stiffeners shall be fabricated to be plumb in its final position.

(A) See "Table for Weld" for minimum weld size.



DEAD LOAD DEFLECTION DIAGRAM

NO SCALE

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 8 OF 9
DETAILS OF 305' CONTINUOUS COMPOSITE PLATE GIRDER UNITS

BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

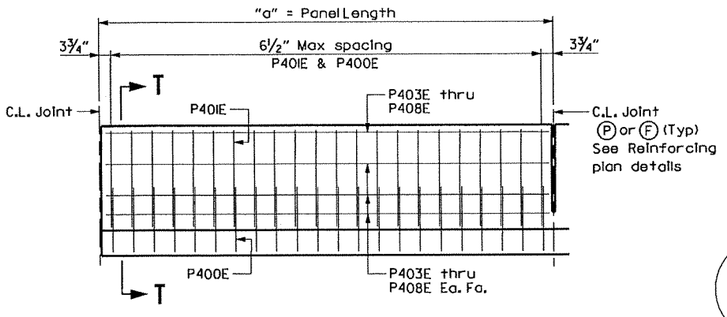
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DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53158

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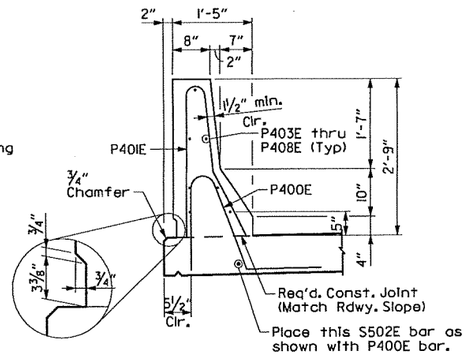
Ⓟ C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab.

Ⓕ C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.



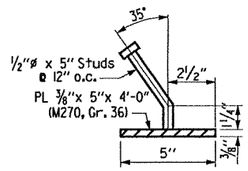
DETAILS OF CLOSED PARAPET RAIL

½" = 1'-0"



SECTION T-T

¾" = 1'-0"

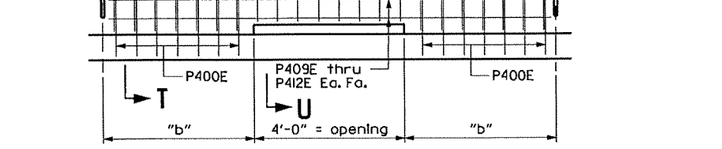


DETAIL Z

No Scale

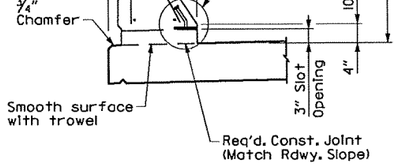
Note:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plates shall be measured and paid for as "Structural Steel in Plate Girder Spans (M270, Gr.50W)".

The surfaces of the ⅜" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to Item "Structural Steel in Plate Girder Spans (M270, Gr.50W)"



DETAILS OF OPEN PARAPET RAIL

½" = 1'-0"



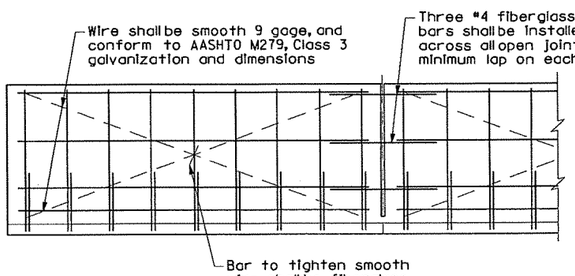
SECTION U-U

¾" = 1'-0"

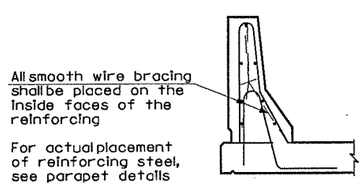
PARAPET RAIL VARIABLES

Parapet Type	"a"	"b"	Longitudinal Reinforcing
Closed-E	15'-6"		P403E
Closed	15'-6"		P404E
Closed	17'-0"		P405E
Open	15'-6"	5'-9"	P406E
Open	17'-0"	6'-6"	P407E

Types denoted with a -E suffix are adjacent to C.L. of Deck Joints



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	141	252

1	07263	Span Details	53159

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 9 OF 9
DETAILS OF 305' CONTINUOUS
COMPOSITE PLATE GIRDER UNITS
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ST DATE: 8/20/12
CHECKED BY: LK DATE: 8/22/12
DESIGNED BY: ST DATE: 5/15/12
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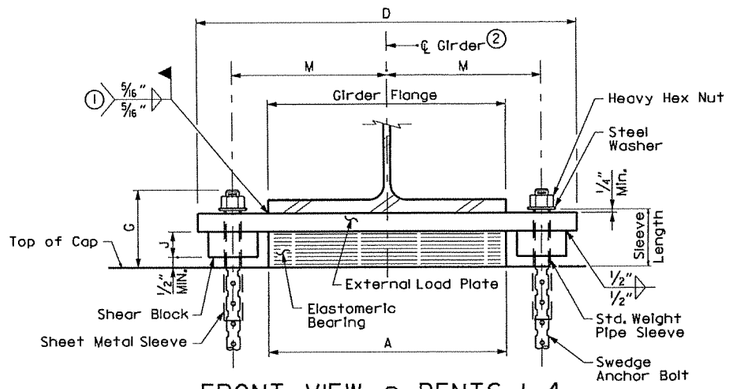
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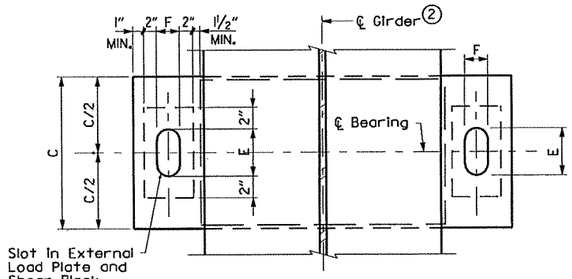
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				JOB NO.		100687	142	252
				(1) 07263		Bearing Details		53160

STATE OF ARKANSAS
STEPHEN T. SMILEY
REGISTERED PROFESSIONAL ENGINEER
No. 13072
4 Sept 2012



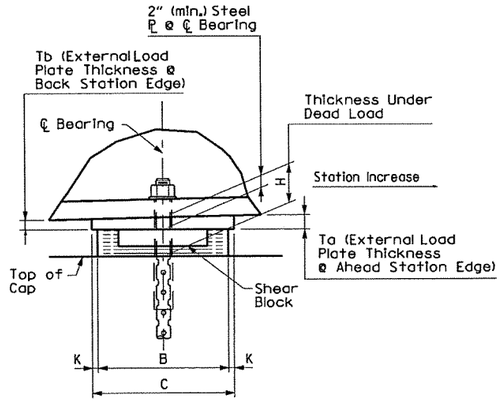
FRONT VIEW @ BENTS 1, 4, 7, 10, 13, 16, 19 & 22

(No Scale)



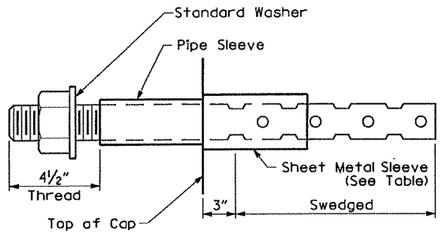
PLAN VIEW @ BENTS 1, 4, 7, 10, 13, 16, 19 & 22

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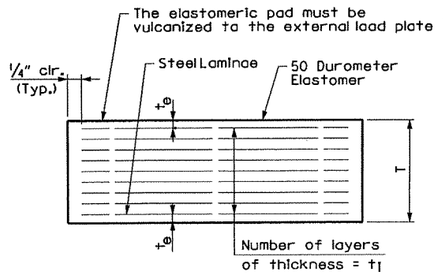
SIDE VIEW @ BENTS BENTS 1, 4, 7, 10, 13, 16, 19 & 22

(No Scale)



ANCHOR BOLT DETAIL

(No Scale)



t
+i = thickness of elastomer between steel laminae.
+e = thickness of elastomer cover on top and bottom of pad.
N = number of elastomer layers of thickness t1.

ELASTOMERIC BEARING

(No Scale)

(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the girder flange before welding begins.

(2) Thus the ℄ of Bearings shall coincide with the ℄ of Girders.

Note:
The direction of bevel of the external load plate may not be accurately depicted with respect to the "T(a)" and "T(b)" values shown in the "Table of Fabricator Variables."

NOTE:
Anchor bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required. If Anchor bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with Styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly but will be considered subsidiary to the Item "Structural Steel in Plate Girder Spans (M 270, Gr. 50W)".

GENERAL NOTES:
Elastomeric bearings shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings."

External load plates and shear blocks shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, class 50.

External load plates with shear blocks shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Section 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(e).

For unpainted Grade 50W steel, Anchor Bolts, Washers, and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers, and Nuts shall be paid for at the unit price bid for "Structural Steel in Plate Girder Spans, (M 270, Gr. 50W)". External load plates and shear blocks will not be measured or paid for separately but will be considered included in the contract unit price bid for "Elastomeric Bearings." Bearings shall be seated in accordance with subsection 808.08. This work and materials are considered subsidiary to the Item "Elastomeric Bearings" and will not be paid for directly.

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the engineer will provide adjustment data.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 3
DETAILS OF ELASTOMERIC BEARINGS
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	RS	DATE:	6/15/12		

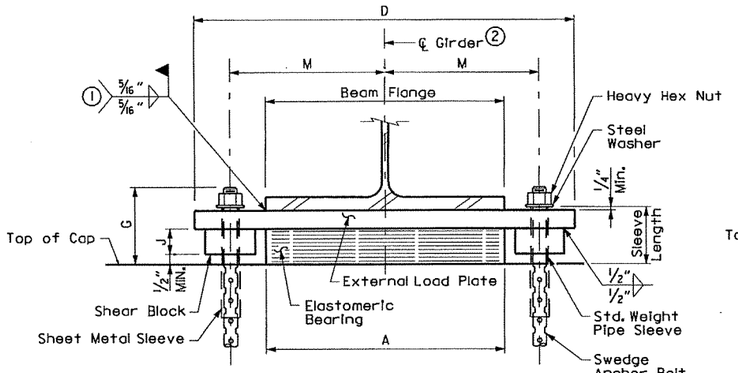
BRIDGE NO. 07263 DRAWING NO. 53160

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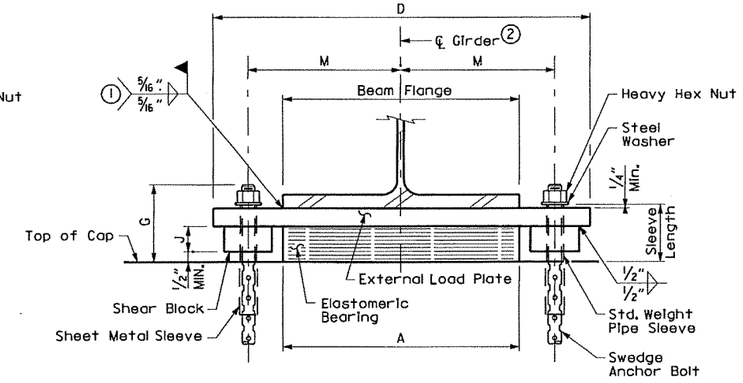
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	143	252
				① 07263		Bearing Details		53161

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012



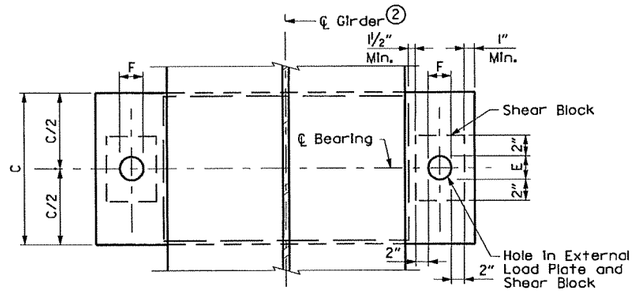
FRONT VIEW @ BENTS 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20 & 21

(No Scale)



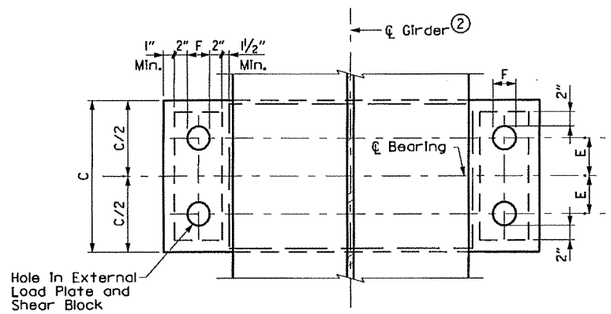
FRONT VIEW @ BENTS 2, 3

(No Scale)



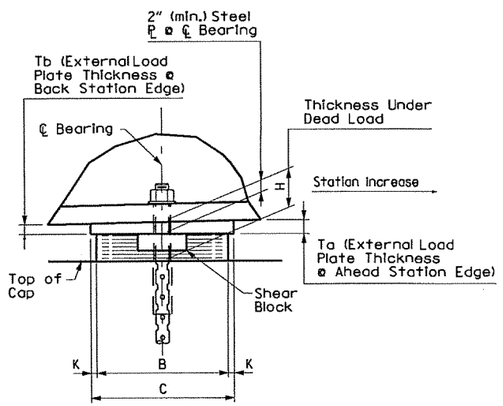
PLAN VIEW @ BENTS 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20 & 21

(No Scale)



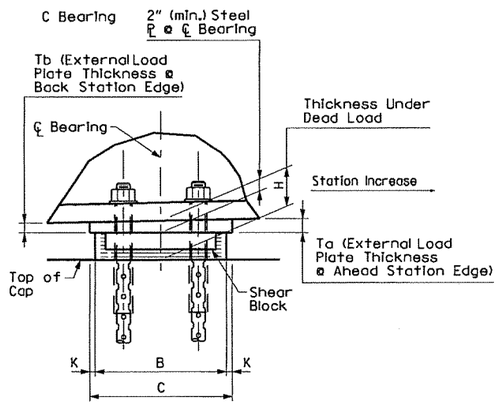
PLAN VIEW @ BENTS 2, 3

(No Scale)



SIDE VIEW @ BENTS 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20 & 21

(No Scale)



SIDE VIEW @ BENTS 2, 3

(No Scale)

① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

② Thus the ℄ of Bearings shall coincide with the ℄ of Girders.

Note:
The direction of bevel of the external load plate may not be accurately depicted with respect to the "T(a)" and "T(b)" values shown in the "Table of Fabricator Variables."

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 3
DETAILS OF ELASTOMERIC BEARINGS
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	RS	DATE:	8/23/12	FILENAME:	b100687_e2
CHECKED BY:	STS	DATE:	8/23/12	SCALE:	AS SHOWN
DESIGNED BY:	RS	DATE:	6/15/12		

BRIDGE NO. 07263 DRAWING NO. 53161

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	144	252
				07263		Bearing Details		53162

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

TABLE OF FABRICATOR VARIABLES

LOCATION								ELASTOMER PAD							EXTERNAL LOAD PLATE									ANCHOR BOLT				
																								ANCHOR BOLT		PIPE	SHEET METAL	STEEL
BENT NO.	SPAN NO(S).	GIRDER NO(S).	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G (in.)	H (in.)	A (in.)	B (in.)	N (in.)	ti (in.)	te (in.)	NO. & THICKNESS OF STEEL LAMINAE	T (in.)	C (in.)	D (in.)	E (in.)	F (in.)	J (in.)	K (in.)	M (in.)	Ta (in.)	Tb (in.)		GRADE	SLEEVE SIZE	SLEEVE SIZE	WASHER O.D. (in.)
1	1	ALL	Exp.	9	250	11 7/8	9 1/8	28	14	11	1/2	1/4	12 @ 12 Ga.	7 5/16	15	45 1/2	8	2 1/4	6 5/8	1/2	18 5/8	2.00	2.00	1 1/2" x 34"	55	1 1/2" x 9 3/8"	3" x 17"	4
2	1 & 2	1 - 5	Fixed	5	840	11 1/16	7 13/16	32	16 1/2	9	1/2	1/4	10 @ 12 Ga.	6 1/16	17 1/2	51 3/8	4 1/4	3 1/8	5 1/4	1/2	21 1/8	1.89	2.11	2" x40"	55	2 1/2" x 8 1/16"	4" x 21"	5 3/8
2	1 & 2	6 - 9	Fixed	4	840	11 1/16	7 13/16	32	16 1/2	9	1/2	1/4	10 @ 12 Ga.	6 1/16	17 1/2	51 3/8	4 1/4	3 1/8	5 1/4	1/2	21 1/8	1.88	2.12	2" x40"	55	2 1/2" x 8 1/16"	4" x 21"	5 3/8
3	2 & 3	ALL	Fixed	9	925	11 1/16	7 13/16	32	16 1/2	9	1/2	1/4	10 @ 12 Ga.	6 1/16	17 1/2	51 3/8	4 1/4	3 1/8	5 1/4	1/2	21 1/8	1.76	2.24	2" x40"	55	2 1/2" x 8 1/16"	4" x 21"	5 3/8
4	3	ALL	Exp.	9	290	11 7/8	9 1/8	28	14	11	1/2	1/4	12 @ 12 Ga.	7 5/16	15	45 1/2	8	2 1/4	6 5/8	1/2	18 5/8	1.79	2.21	1 1/2" x 34"	55	1 1/2" x 9 3/8"	3" x 17"	4
4	4	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.84	2.16	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
5	4 & 5	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
6	5 & 6	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
7	6	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.84	2.16	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
7	7	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.84	2.16	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
8	7 & 8	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 6 15/16"	4" x 17"	4 5/8
9	8 & 9	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 6 15/16"	4" x 17"	4 5/8
10	9	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.84	2.16	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
10	10	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.84	2.16	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
11	10 & 11	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
12	11 & 12	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.82	2.18	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
13	12	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.86	2.14	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
13	13	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.86	2.14	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
14	13 & 14	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.87	2.13	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
15	14 & 15	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.91	2.09	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
16	15	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.94	2.06	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
16	16	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.94	2.06	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
17	16 & 17	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.95	2.05	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
18	17 & 18	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.98	2.02	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
19	18	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.98	2.02	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
19	19	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.98	2.02	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4
20	19 & 20	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.98	2.02	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
21	20 & 21	ALL	Fixed	9	335	8 9/16	5 9/16	22	12	5	1/2	1/4	6 @ 12 Ga.	3 11/16	13	40 3/8	2 5/8	2 5/8	3	1/2	15 7/8	1.98	2.02	1 3/4" x32"	55	2" x 5 3/4"	4" x 17"	4 5/8
22	21	ALL	Exp.	9	135	7 3/4	5	18	10	4	1/2	1/4	5 @ 12 Ga.	3 1/16	12	35 1/2	6	2 1/4	2 1/2	1	13 5/8	1.98	2.02	1 1/2" x 30"	55	1 1/2" x 5 1/4"	3" x 17"	4

*Maximum Design Load = Service I Limit State

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 3
DETAILS OF ELASTOMERIC BEARINGS
BRIDGE OVER BLACK RIVER
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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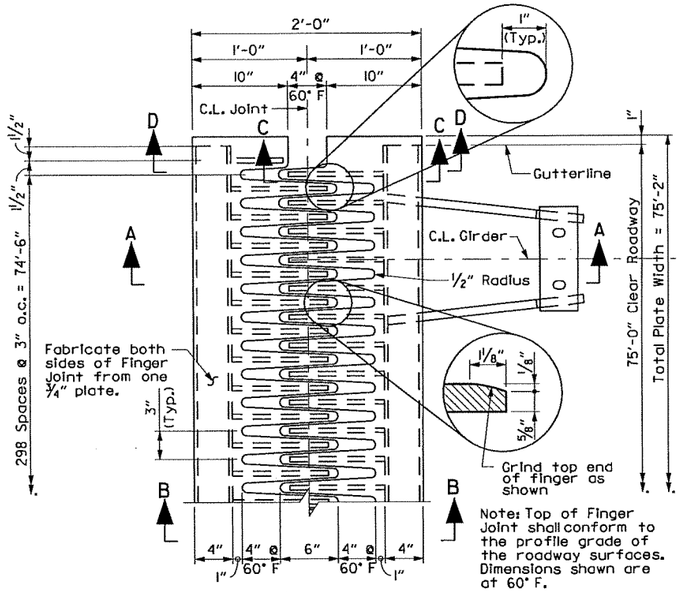
BRIDGE NO. 07263 DRAWING NO. 53162

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				6	ARK.			
				JOB NO.		100687	145	252
				(1) 07263		Joint Details		53163

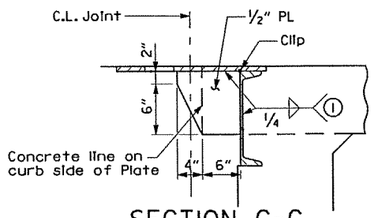
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

Note: All structural steel in Finger Joints shall be AASHTO M270 Gr. 50W steel.

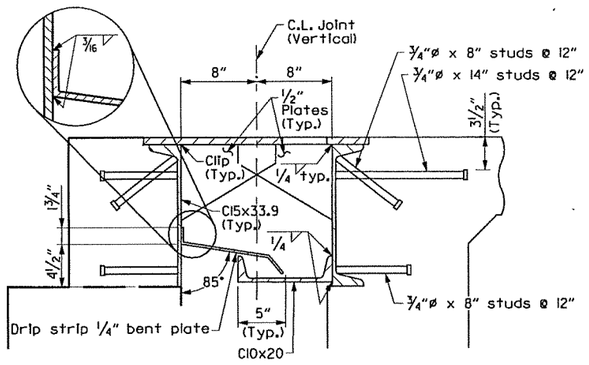


Note: Top of Finger Joint shall conform to the profile grade of the roadway surfaces. Dimensions shown are at 60° F.

PLAN
Scale: 1½" = 1'-0"



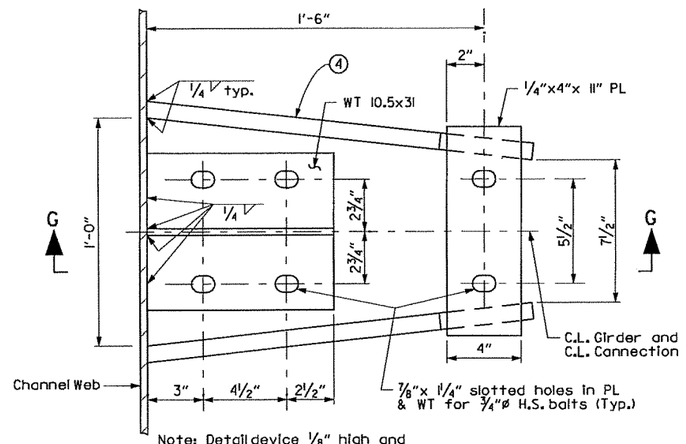
SECTION C-C
Scale: 1" = 1'-0"



Note: For stud placement, see "VIEW @ C.L. JOINTS" (3)

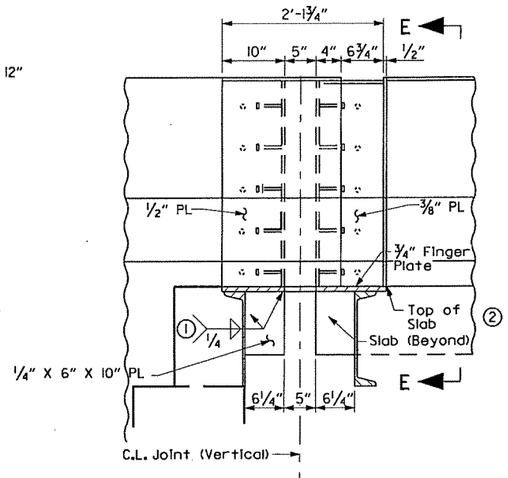
Note: The ¾"ø studs shown shall be granular flux filled, solid fluxed, or equal, and automatically end welded to the channel in accordance with recommendations of the manufacturer.

SECTION B-B
Scale: 1½" = 1'-0"

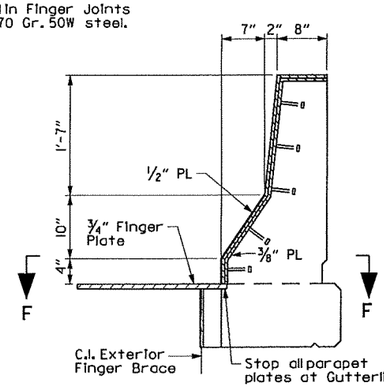


Note: Detail device ⅛" high and provide ¼" shims for Tee using 1-⅛" PL and 2-1/16" PL's.

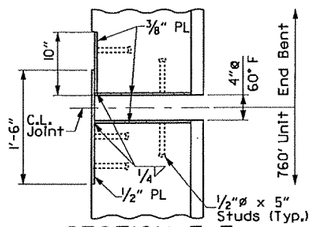
PLAN OF CONNECTION TO GIRDER
Scale: 3" = 1'-0"



SECTION D-D
Scale: 1" = 1'-0"



SECTION E-E
Scale: 1" = 1'-0"



SECTION F-F
Scale: 1" = 1'-0"

Bent No.(s)	Joint Width at 24 hour Average Temperature		
	40°F	60°F	80°F
1	3⅜"	4"	4⅝"

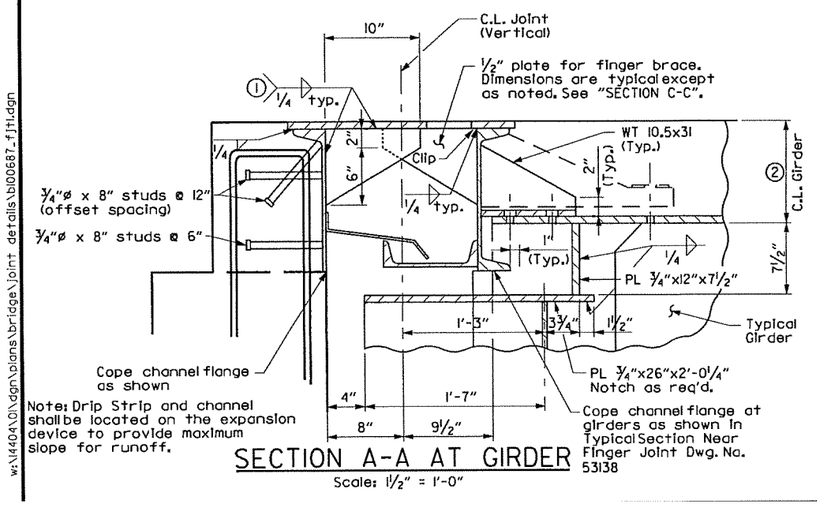
① Stop weld ¼" to 1" from clip.

② See applicable span details for Deck + Haunch value at C.L. of girder

③ See Dwg. Nos. 53138

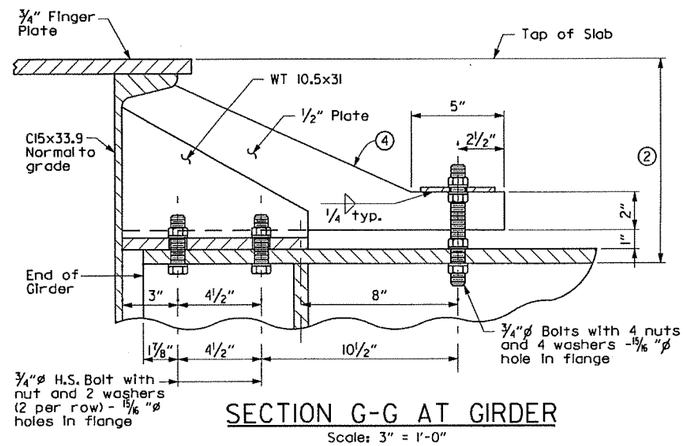
④ Where bottom transverse reinforcing conflicts with CONNECTION TO GIRDER, field cut bars for approximately ½" clearance. Repair epoxy coating per Section 804.05.

Note: Before joint closure pours are done, joint shall be set and adjusted for grade. Set joint width by interpolating from table.

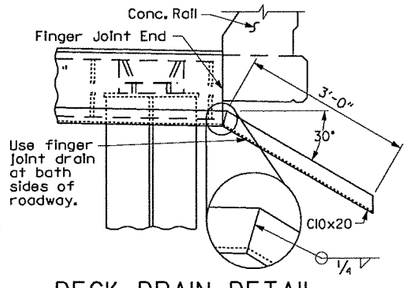


Note: Drip Strip and channel shall be located on the expansion device to provide maximum slope for runoff.

SECTION A-A AT GIRDER
Scale: 1½" = 1'-0"



SECTION G-G AT GIRDER
Scale: 3" = 1'-0"



DECK DRAIN DETAIL
(With channel downspout)
Scale: ¾" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF FINGER JOINT AT END BENT
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ST DATE: 8/15/12
CHECKED BY: STS DATE: 8/24/12
DESIGNED BY: ST DATE: 5/15/12
FILENAME: b100687_fjt1
SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53163

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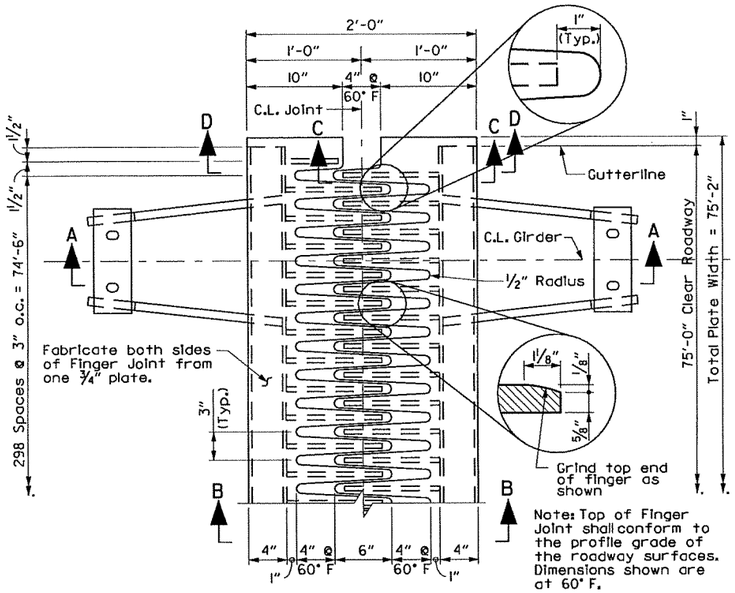
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	146	252

(1) 07263 Joint Details 53164

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen Smiley 4 Sept 2012

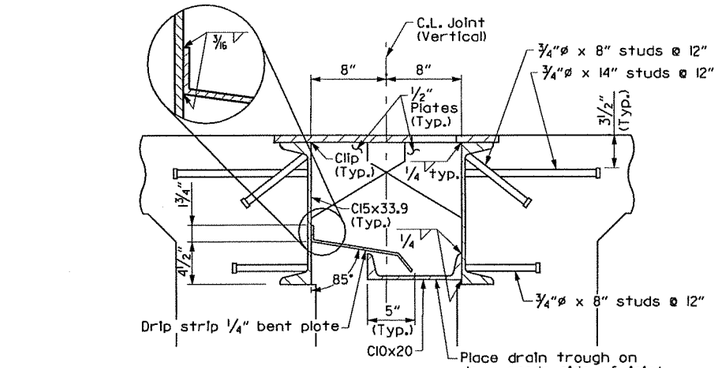
Note: All structural steel in Finger Joints shall be AASHTO M270 Gr. 50W steel.



Note: Top of Finger Joint shall conform to the profile grade of the roadway surfaces. Dimensions shown are at 60° F.

PLAN

Scale: 1½" = 1'-0"

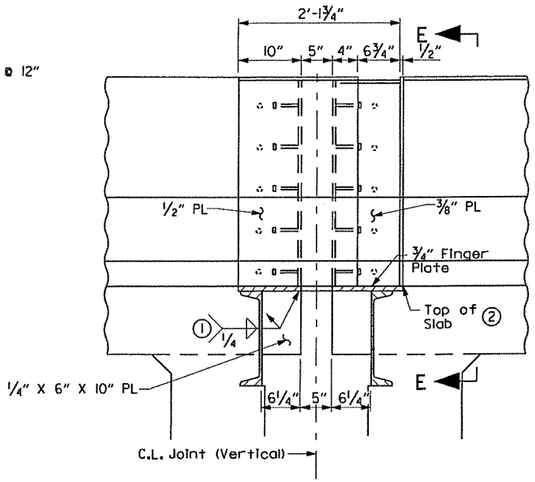


Note: For stud placement, see "VIEW @ C.L. JOINTS" (3)

Note: The ¾"ø studs shown shall be granular flux filled, solid fluxed, or equal, and automatically end welded to the channel in accordance with recommendations of the manufacturer.

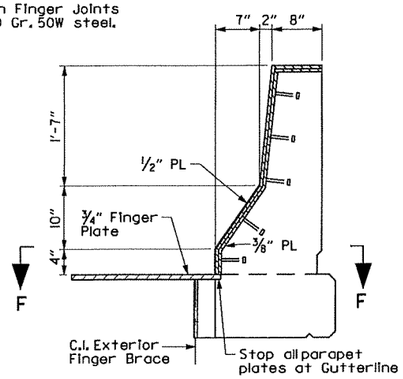
SECTION B-B

Scale: 1½" = 1'-0"



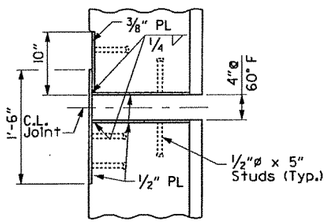
SECTION D-D

Scale: 1" = 1'-0"



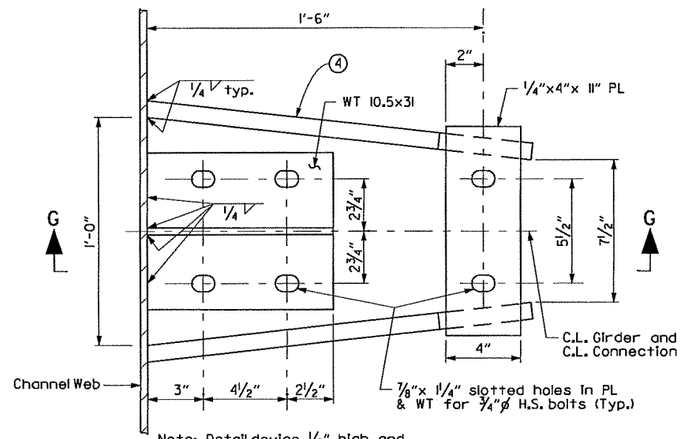
SECTION E-E

Scale: 1" = 1'-0"



SECTION F-F

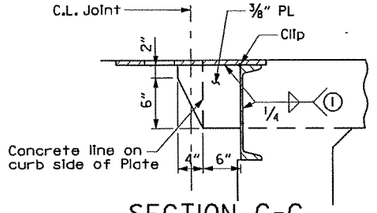
Scale: 1" = 1'-0"



Note: Detail device ⅛" high and provide ¼" shims for Tee using 1-⅛" PL and 2-1/16" PL's.

PLAN OF CONNECTION TO GIRDER

Scale: 3" = 1'-0"



SECTION C-C

Scale: 1" = 1'-0"

Bent No.(s)	Joint Width at 24 hour Average Temperature		
	40°F	60°F	80°F
4	3⅛"	4"	4⅛"
7,11,15,19	3½"	4"	4½"

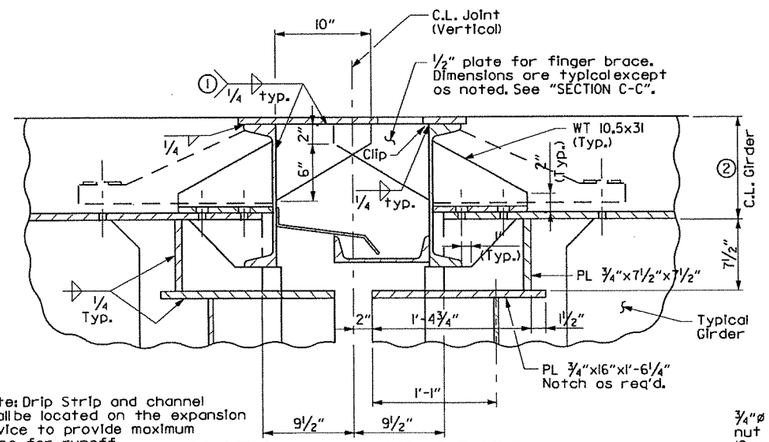
(1) Stop weld ¼" to 1" from clip.

(2) See applicable span details for Deck + Haunch value at C.L. of girder

(3) See Dwg. Nos.53152

(4) Where bottom transverse reinforcing conflicts with CONNECTION TO GIRDER, field cut bars for approximately ½" clearance. Repair epoxy coating per Section 804.05.

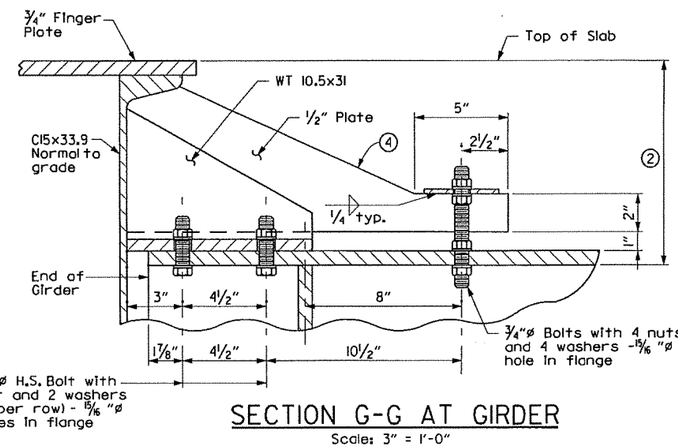
Note: Before joint closure pours are done, joint shall be set and adjusted for grade. Set joint width by interpolating from table.



Note: Drip Strip and channel shall be located on the expansion device to provide maximum slope for runoff.

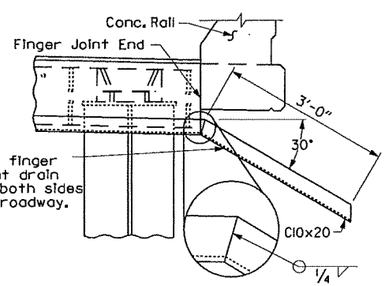
SECTION A-A AT GIRDER

Scale: 1½" = 1'-0"



SECTION G-G AT GIRDER

Scale: 3" = 1'-0"



DECK DRAIN DETAIL

(With channel downspout)

Scale: ¾" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF FINGER JOINT AT INTERIOR BENTS BLACK RIVER STR. & APPRS. (BLACK ROCK)(F) LAWRENCE COUNTY

ROUTE: 63 SEC: 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	ST	DATE:	8/15/12	FILENAME:	b100687_fjt7.
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DESIGNED BY:	ST	DATE:	5/15/12		

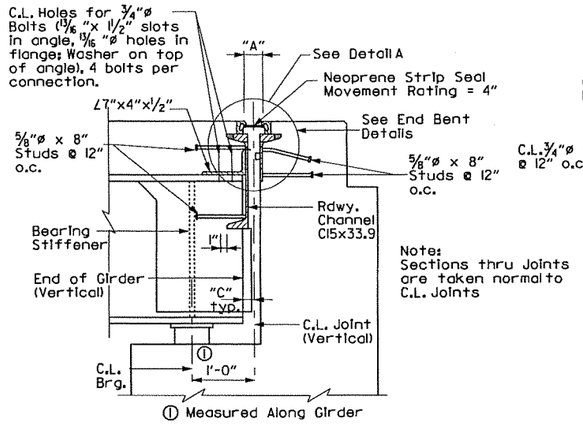
BRIDGE NO. 07263 DRAWING NO. 53164

9/4/2012 4:13:38 PM sts

w:\1404\01\dgn\plans\bridges\joint details\b100687_fjt7.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	147	252
				① 07263		Joint Details		53165

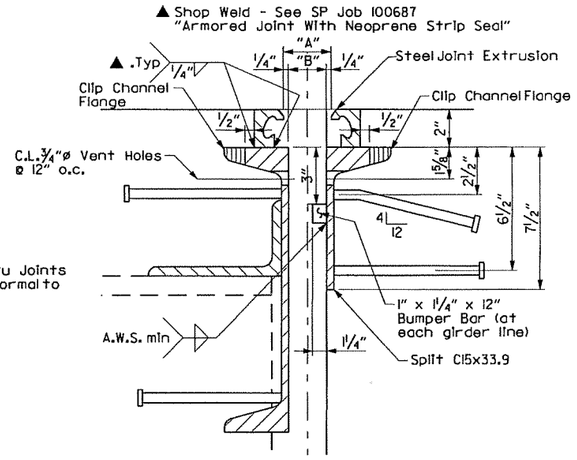
STATE OF ARKANSAS
STEPHEN T. SMILEY
No. 13072
REGISTERED PROFESSIONAL ENGINEER
4 Sept 2012



Note: Sections thru Joints are taken normal to C.L. Joints

SECTION THRU JOINT AT BENT 22

Scale: 1" = 1'-0"



DETAIL A

Scale: 3" = 1'-0"

Note: Concrete shall be hand packed under the joint armor in the backwall and in the span

GENERAL NOTES:

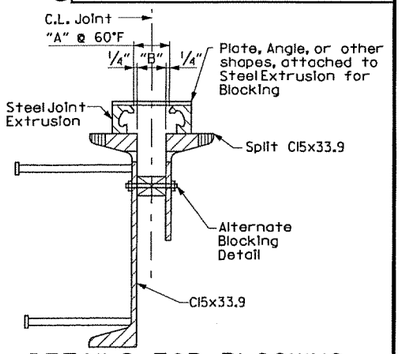
EXPANSION NEOPRENE STRIP SEAL: The expansion device shall provide a movement of 4" as shown in the "STRIP SEAL JOINT DATA" table. The expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

Details of proposed slider plate assembly shall be submitted to and approved by the Engineer prior to the fabrication of any structural steel at the expansion device.

All structural steel, except for the steel extrusion for the strip seal, shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, Grade 50W)". The steel extrusion, neoprene strip seal, and slider plate anchor system shall be paid for in accordance with Special Provision Job 100687 "ARMORED JOINT WITH NEOPRENE STRIP SEAL".

Note: Details of joint turn-up in parapet are general and show basic design controls only. See SP Job 100687 "Armored Joint with Neoprene Strip Seal". Method of installation and fabrication shall be determined by the manufacturer.

The method of attachment of the slider plate assembly must be such that it may be removed in order to provide for future replacement of the neoprene seal.



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Note: Each Expansion Joint device shall be blocked in the shop by the Fabricator to the dimension shown for 60° F and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

One of two different blocking systems is required depending on the type of span finishing used.

For Transverse Strike-off :
Plate, Angle, or other shapes, attached to Channels (or Angles) for Blocking.

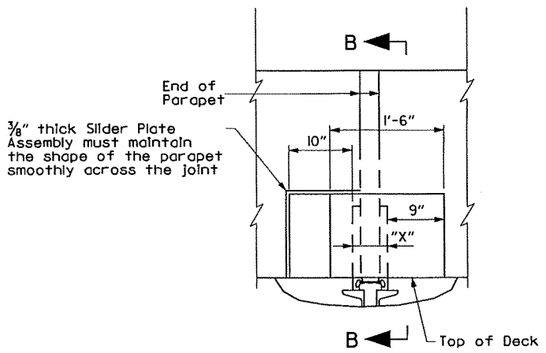
For longitudinal Strike-off:
Bolt & spacer attached to Channels for Blocking.

EXPANSION DEVICE INSTALLATION AT END BENTS:

The contractor may elect to install the expansion device using one of the following two alternatives:

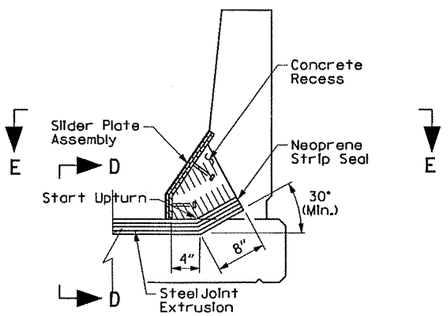
1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent, immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.

2) The backwall shall be poured to the optional construction joint after girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent, immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature.



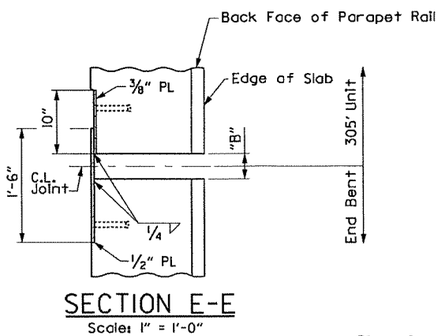
DETAIL OF NEOPRENE SEAL AT GUTTERLINE

Scale: 1" = 1'-0"



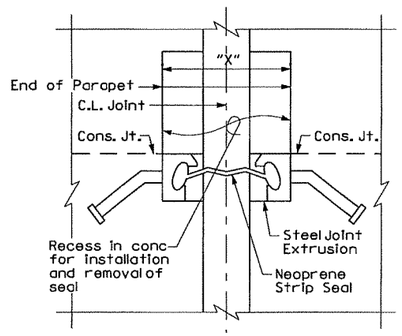
SECTION B-B

Scale: 1" = 1'-0"



SECTION E-E

Scale: 1" = 1'-0"



SECTION D-D

Dimension "X" equals the width of the opening in the barrier to allow for removal or repair of joint.

STRIP SEAL JOINT DATA

Bent No.(s)	Movement Rating (inch)	"A" Width Perpendicular to Joint at 24 hour Average Temperature ** of:			"B" Width Perpendicular to Joint at 24 hour Average Temperature ** of:			"C" Perpendicular to Joint at 24 hour Average Temperature of 60°F
		40°F	60°F	80°F	40°F	60°F	80°F	
22	4"	3"	2¾"	2½"	2½"	2¼"	2"	2¼"

** The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature.

Installation is limited to 40° F, min. and 80° F, max. Interpolation of the table may be necessary. The temperature limitations by the lubricant-adhesive manufacturer shall be observed.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF ARMORED
JOINT WITH NEOPRENE STRIP SEAL
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3

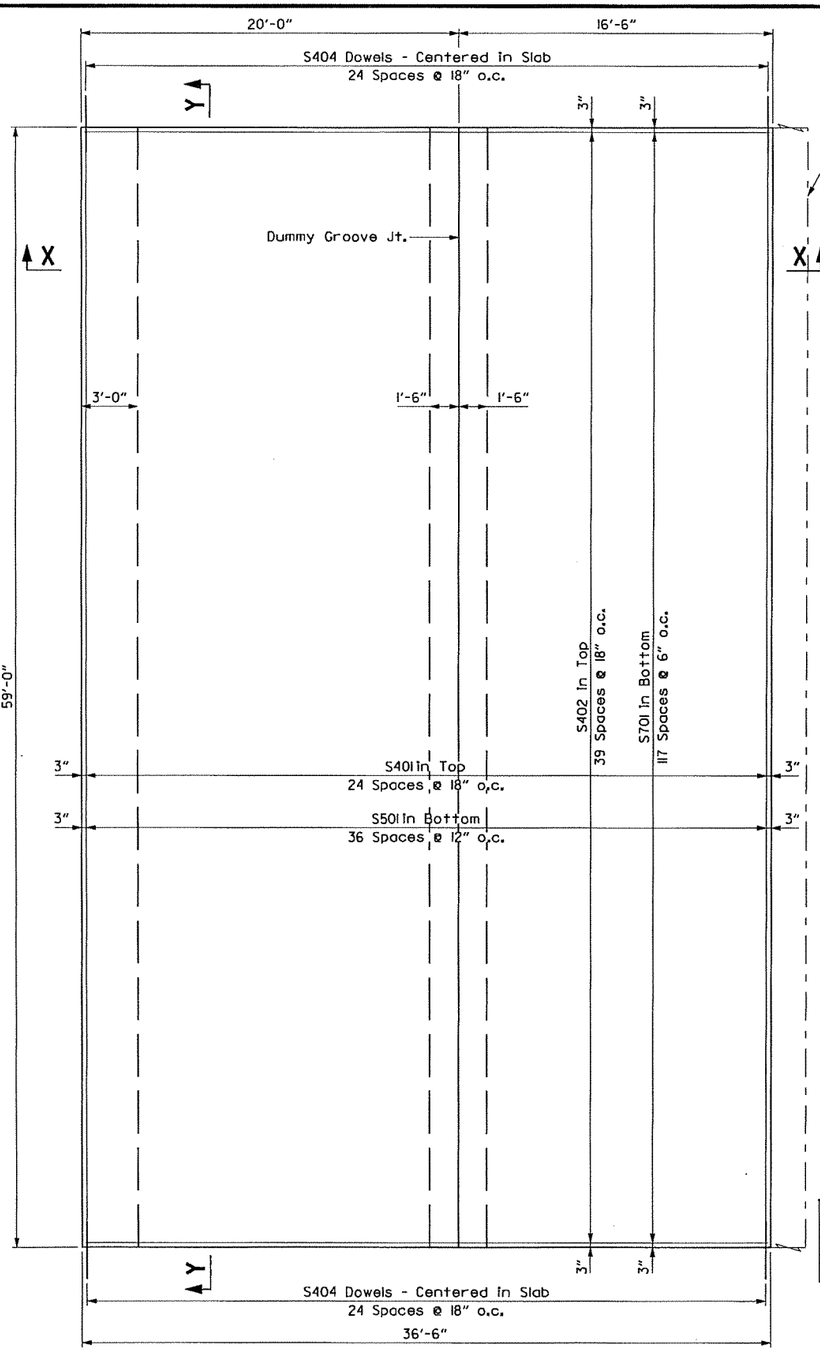
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY:	STS	DATE:	8/24/12	SCALE:	AS SHOWN
DESIGNED BY:	ST	DATE:	5/15/12		

BRIDGE NO. 07263 DRAWING NO. 53165

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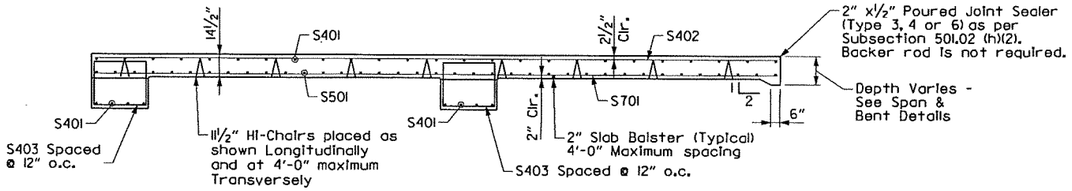
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PLAN - APPROACH SLAB

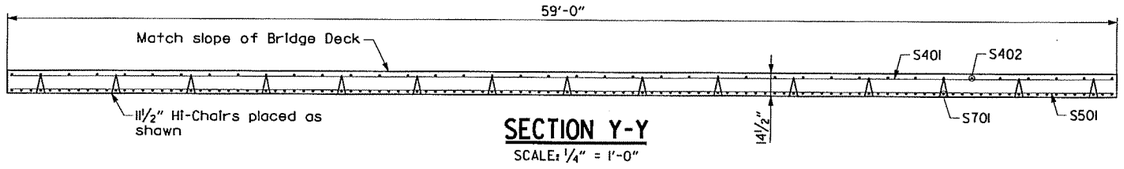
SCALE: 1/4" = 1'-0"
(At Begin Of Bridge Shown ,End Similar)

Note: Surface finish for Approach Slabs shall match that used on the Bridge deck.



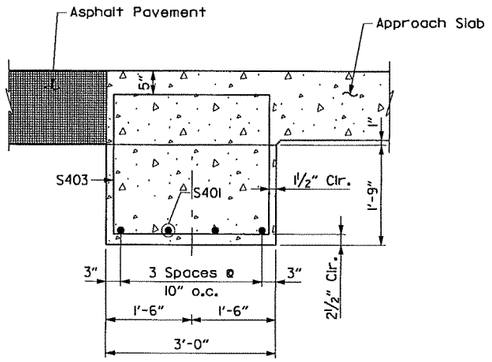
SECTION X-X

SCALE: 1/4" = 1'-0"



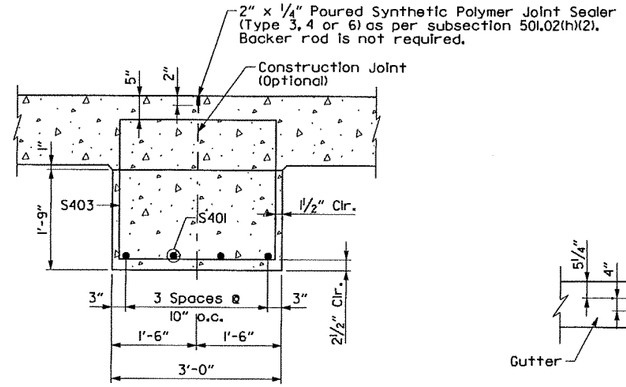
SECTION Y-Y

SCALE: 1/4" = 1'-0"



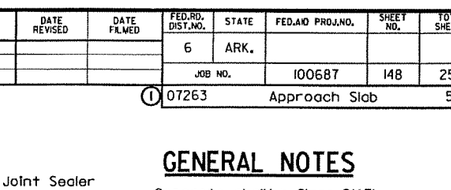
DETAILS OF SUPPORT AT END OF SLAB

3/4" = 1'-0"



DETAILS OF DUMMY GROVE JOINT

3/4" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

SCALE: 1/2" = 1'-0"

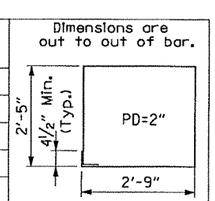
TABLE OF QUANTITIES

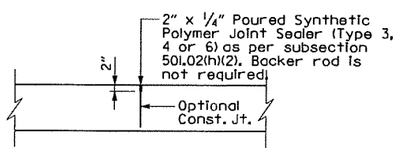
For One Slab (Two Reqd.)

SLAB WIDTH	REINFORCING STEEL	CONCRETE (Cu.Yds.)
59'-0"	27533 lbs.	120.95

BAR LIST

MARK	NO.REQ	LENGTH
S401	66	58'-8"
S402	80	36'-2"
S403	118	10'-8"
S404	100	3'-0"
S501	74	58'-8"
S701	236	36'-2"





DETAILS OF DUMMY GROOVE JOINT

SCALE: 1/2" = 1'-0"

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4,000 psi).

Reinforcing Steel shall conform to AASHTO M31 or M53 GRADE 60 (fy = 60,000 psi).

Approach Slabs will be measured and paid for in accordance with Section 504 of the Standard Specifications.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
4 Sept 2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	148	252
				07263		Approach Slab		53166

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF APPROACH SLAB
TYPE SPECIAL I
BLACK RIVER STR. & APPRS. (BLACK ROCK)(F)
LAWRENCE COUNTY
ROUTE: 63 SEC: 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

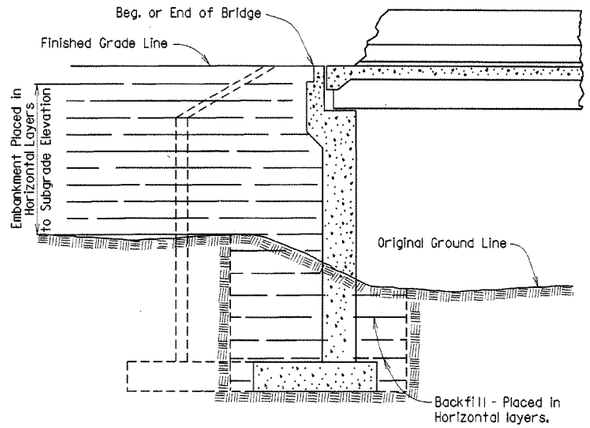
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DESIGNED BY: ST DATE: 5/15/12
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SCALE: AS SHOWN

BRIDGE NO. 07263 DRAWING NO. 53166

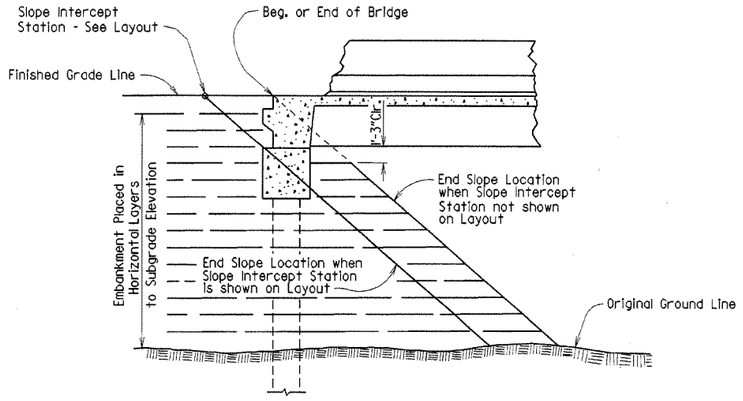
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				JOB NO.				

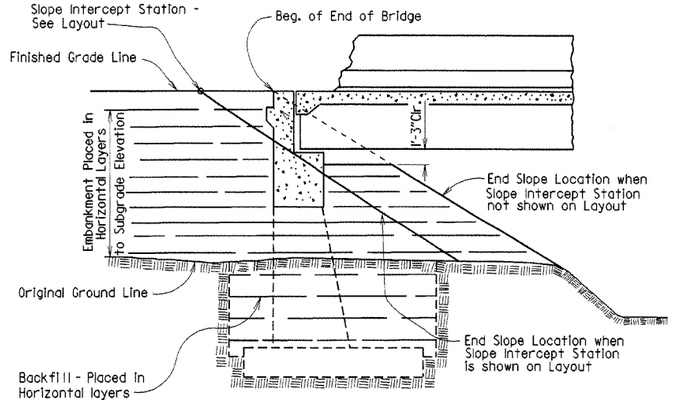
EMBANKMENT & BACKFILL 1888A



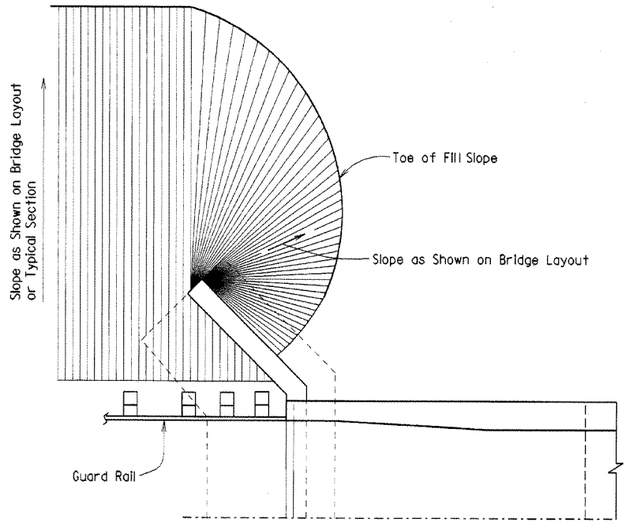
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



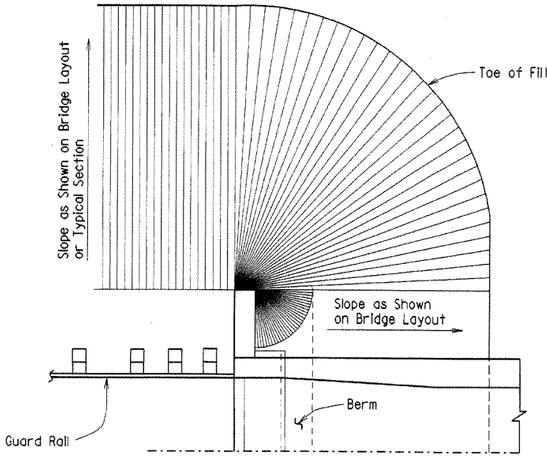
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



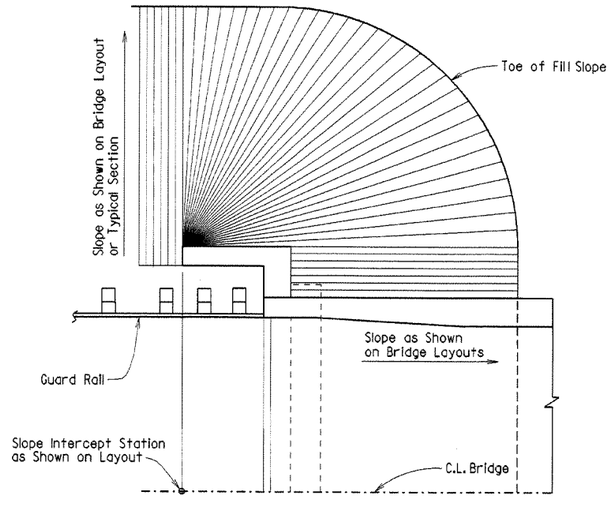
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



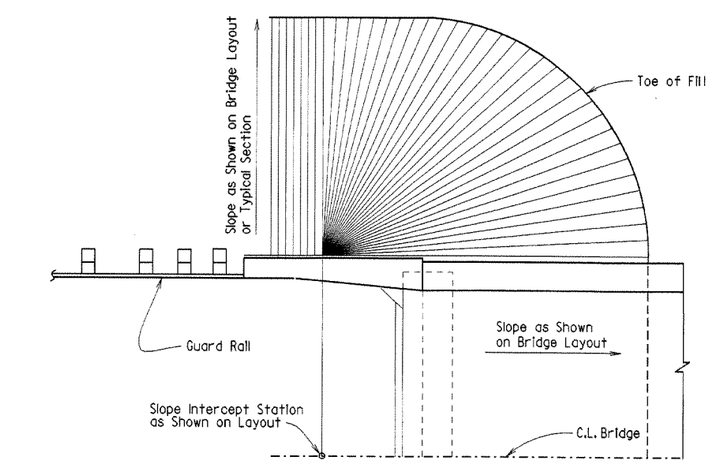
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4537
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

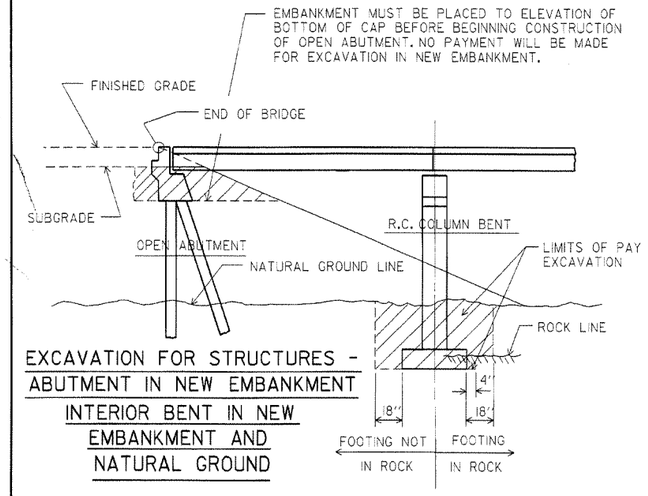
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BRIDGE NO. DRAWING NO. 1888A

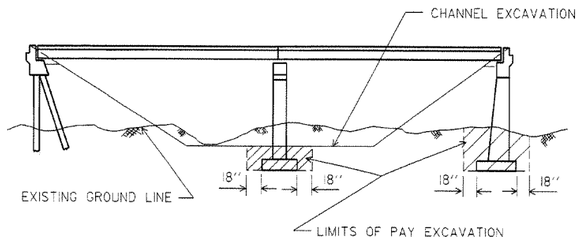
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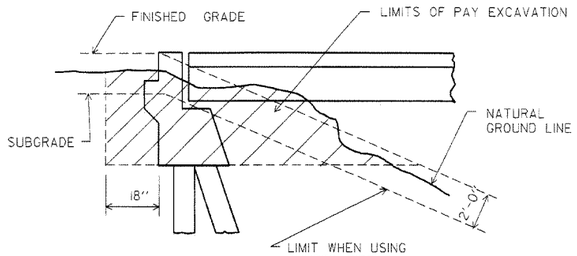
① RIP. & EXCAV. 1891F



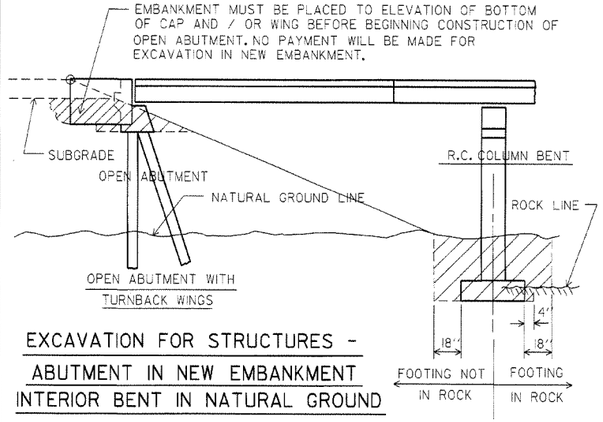
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



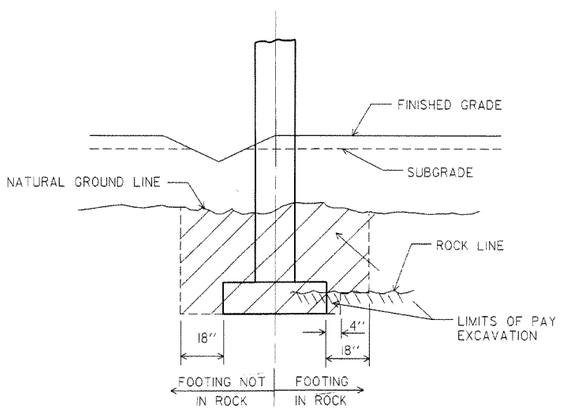
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



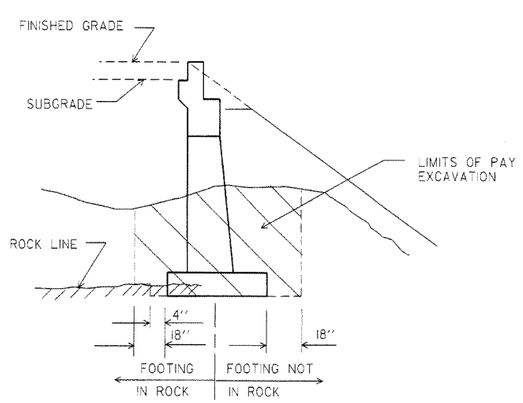
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



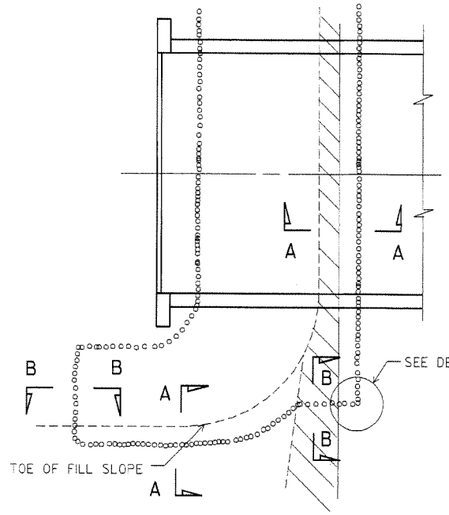
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



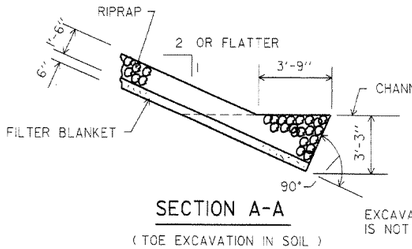
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



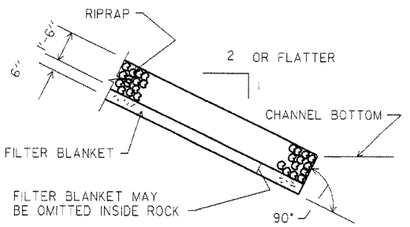
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



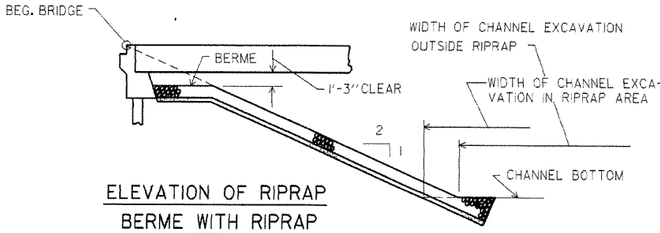
SECTION A-A

(TOE EXCAVATION IN ROCK)

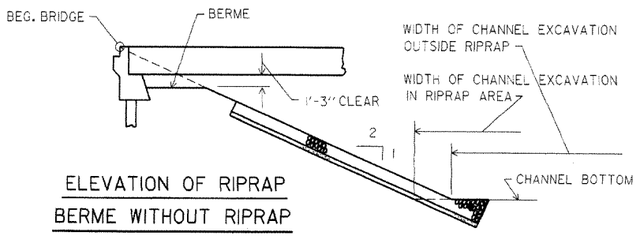
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

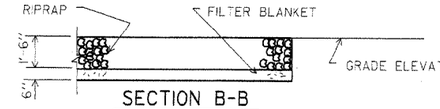
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



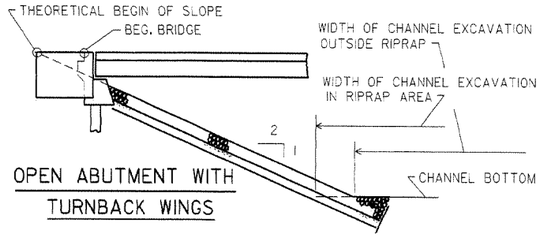
ELEVATION OF RIPRAP BERME WITH RIPRAP



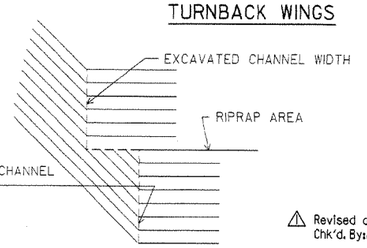
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4037
CHARLES P. BRAND
BRIDGE ENGINEER

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI891F.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

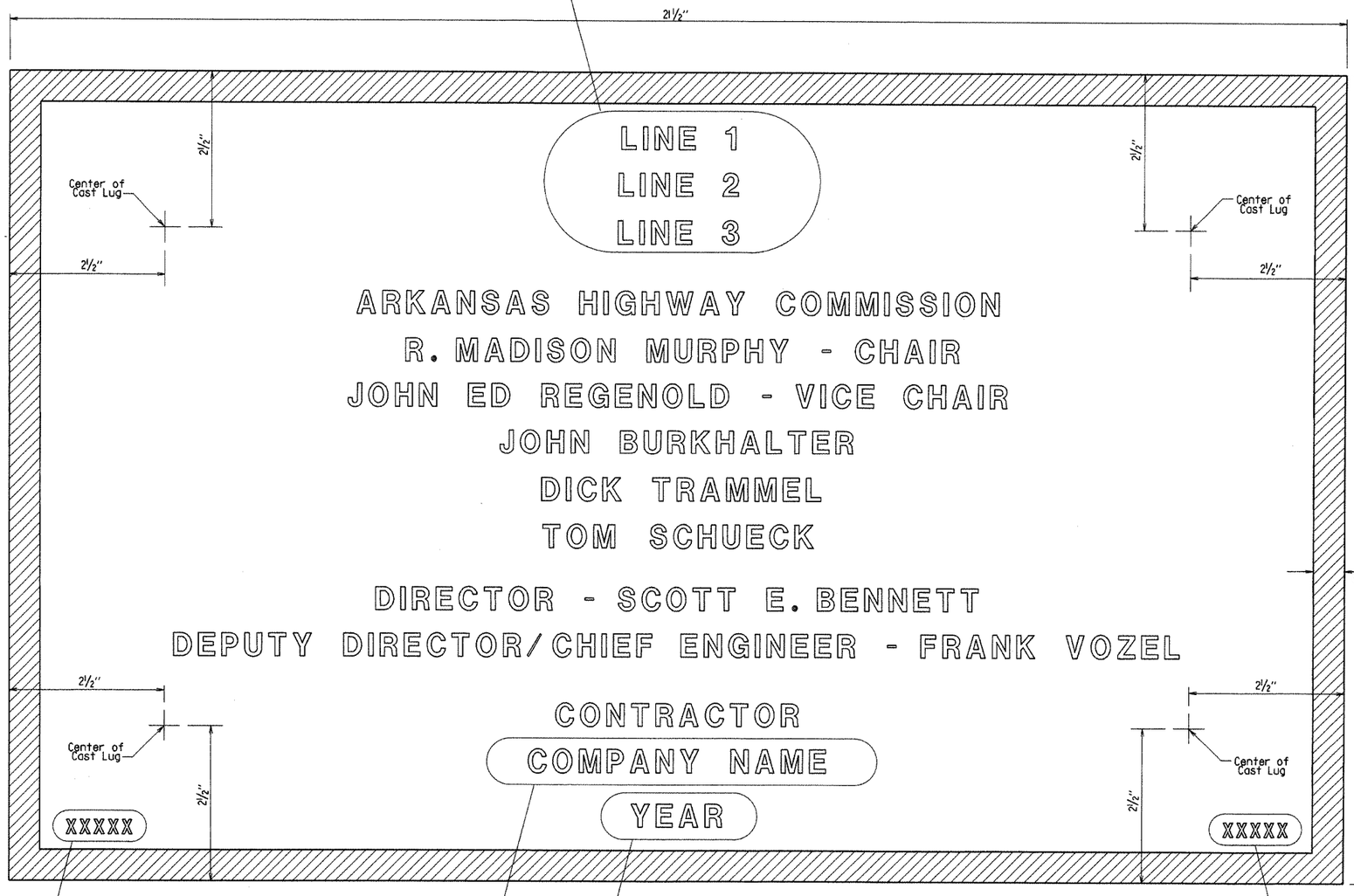
BRIDGE NO. DRAWING NO. 1891F

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-8-11				6	ARK.		151	
				JOB NO.				

(1) NAME PLATE 2387

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



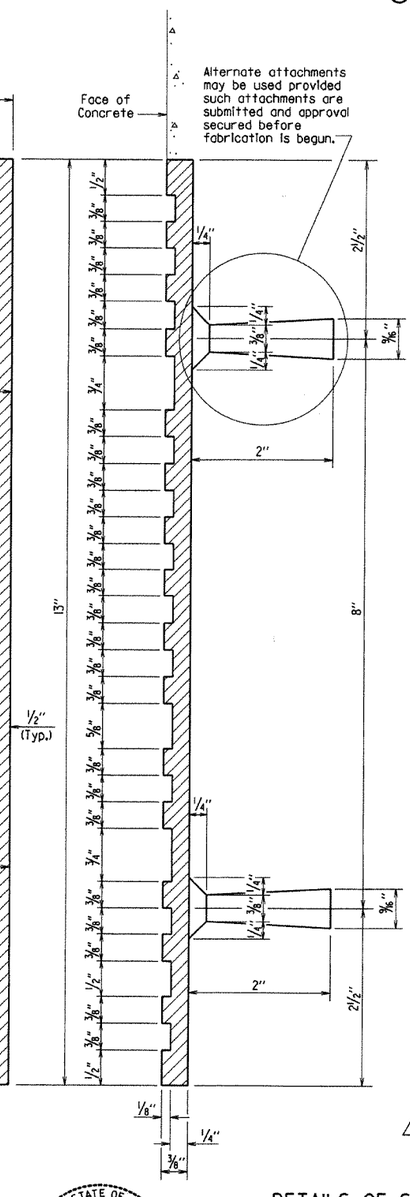
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 9/16"x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

⚠ Revised and Redrawn 9-8-11 KDH Checked By: CRE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

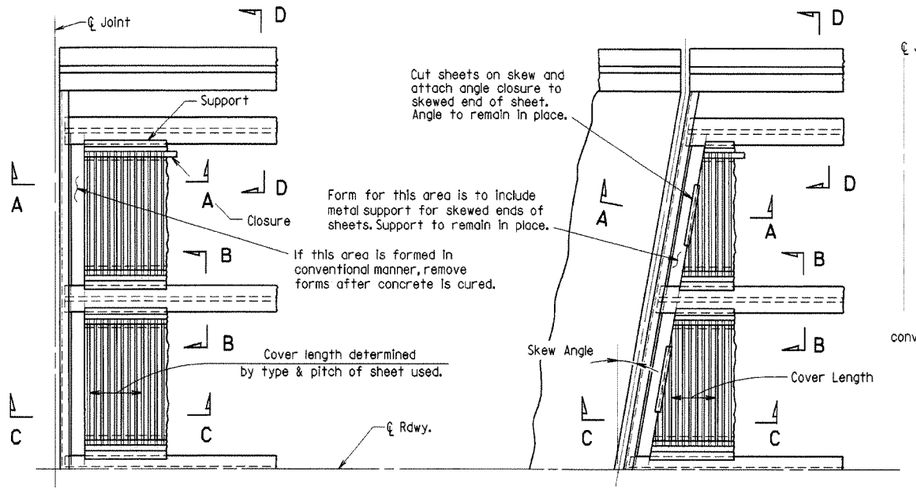
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 9-8-11 FILENAME: B2387.STD
CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0" OR AS NOTED
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 2387

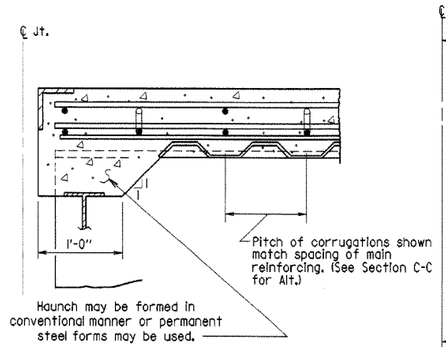
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		152	
04-10-2003						JOB NO.				

① BR. DECK FORMS 14991

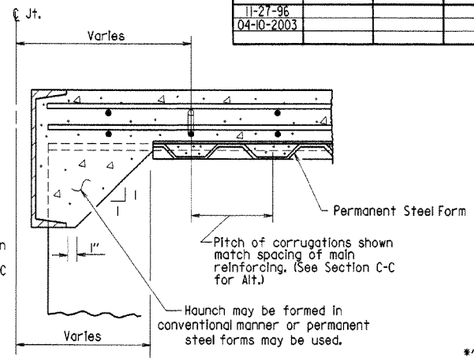


PART PLAN - SQUARE SPAN
3/8" = 1'-0"

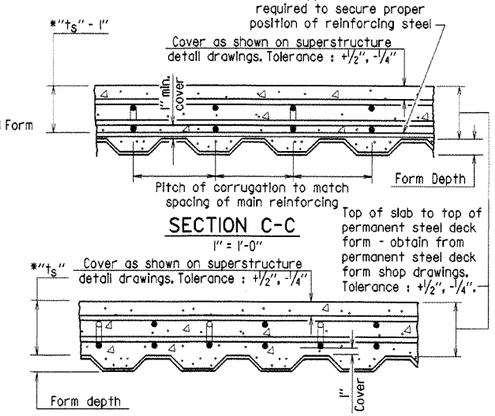
PART PLAN - SKEWED SPAN
3/8" = 1'-0"



SECTION A-A
N.T.S.
(Angle at end of span)

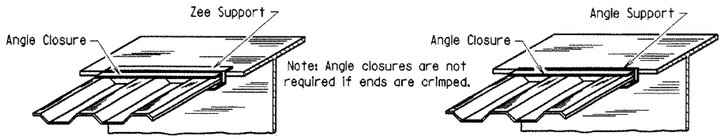


SECTION A-A
N.T.S.
(Channel at end of span)



SECTION C-C
1" = 1'-0"

SECTION C-C - ALTERNATE
1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS
N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to subsection 802.14(b) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Bridge Engineer.

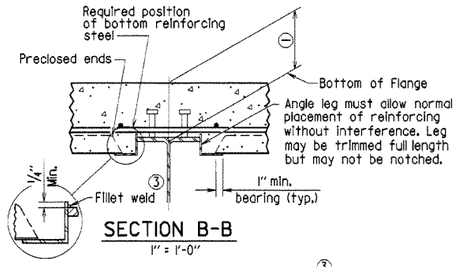
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

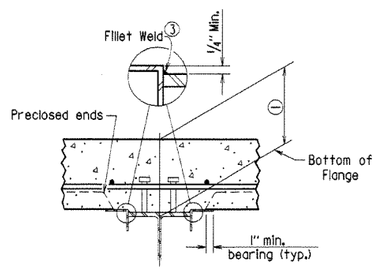
High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

⚠2 Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

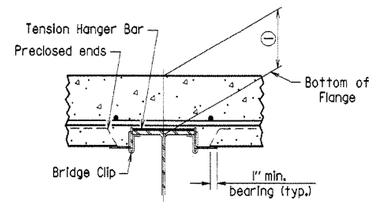


SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

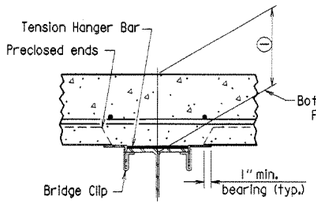
③ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



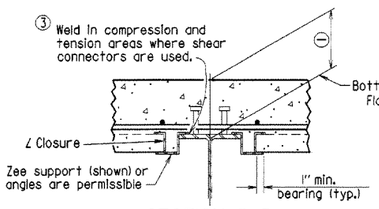
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



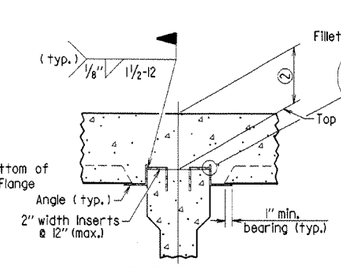
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



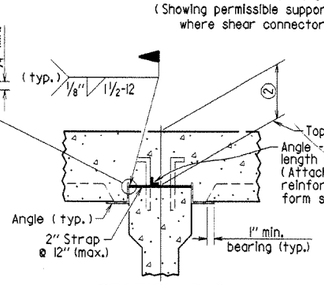
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



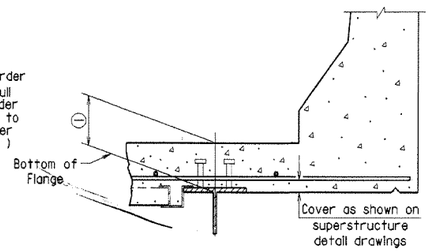
SECTION B-B
1" = 1'-0"
(Showing ∠ Closure)



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"
(Showing support by insert cast in girder)



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"
(Showing support by Strap)



SECTION D-D
1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠1 Redrawn and revised 11/27/96; MJT

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND
BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

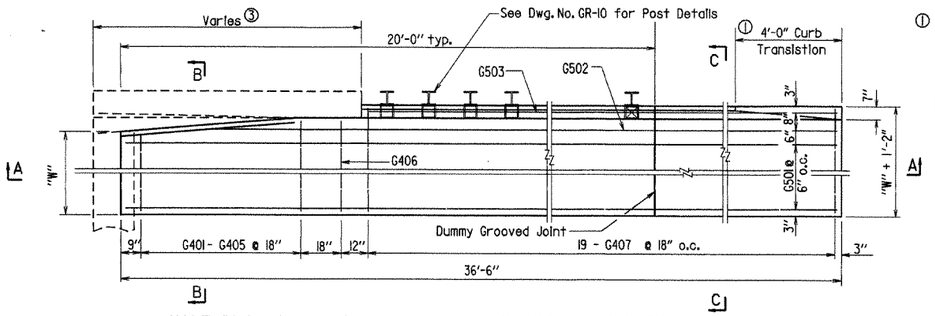
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96
DESIGNED BY: STD. DATE: —
SCALE: as noted

BRIDGE NO. DRAWING NO. 14991

BI499I.STD

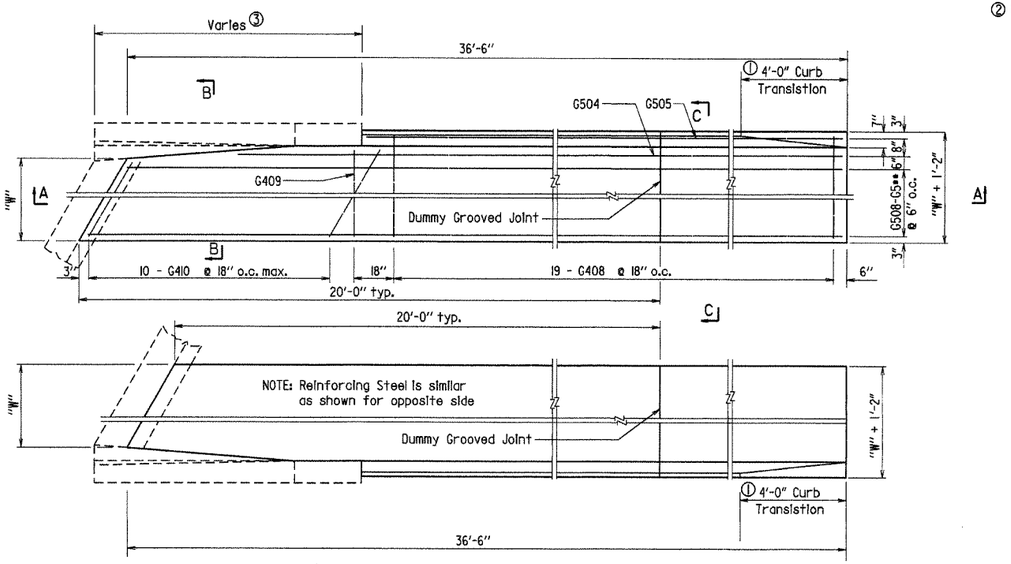
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		153	
07-14-2010				JOB NO.				

① TYPE C GUTTERS - 2016C



HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

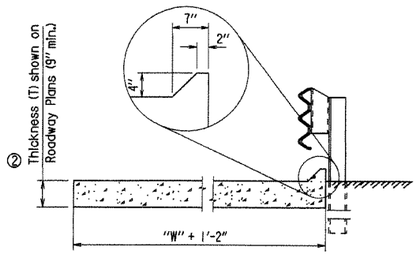
③ Length Varies See End Bt. Details for Actual Length. Quantities Shown are for 10'-0" Transition Rail.



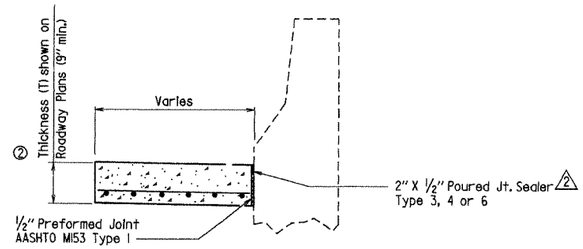
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

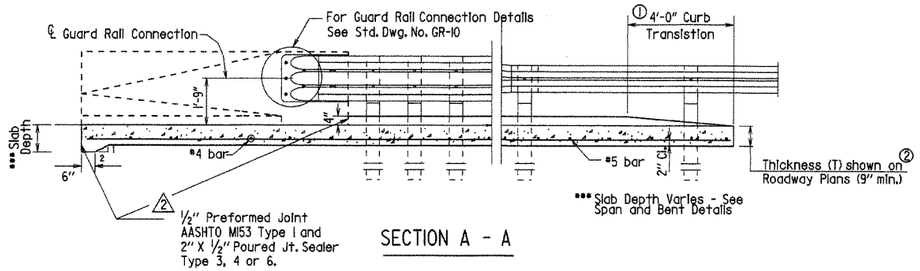


SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

② Thickness shall match Approach Slab Thickness. Thickness shall be 9" if Approach Slab is not used.



SECTION A - A

***BAR LIST FOR ONE TYPE C GUTTER

Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length	Square or Skewed
G401 - G405	1 each	1 each	1 each	1 each	"W"-3" to "W"+3"	Square
G406	1	1	1	1	"W"+3"	Square
G407	19	19	19	19	"W"+ 10"	Square
G408	19	19	19	19	"W"+ 10"	Skewed
G409	1	1	1	1	"W"+3"	Skewed
G410	10	10	10	10	*	Skewed
G501	8	12	16	20	36'-2"	Square
G502	1	1	1	1	31'-8"	Square
G503	1	1	1	1	27'-2"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G508 - G5__ **	1 each	1 each	1 each	1 each	*	Skewed

*** Special bar list required when skew angle exceeds 35° for W = 10'; 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

* Bar Lengths vary with Skew.

** G515 for W = 4'
G519 for W = 6'
G523 for W = 8'
G527 for W = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER ③

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards) T=9"	T=10"	T=11"	T=12"	T=14½"
4	439	5.19	5.75	6.31	6.88	8.25
6	623	7.24	8.02	8.80	9.59	11.52
8	807	9.28	10.29	11.30	12.32	14.79
10	991	11.33	12.56	13.79	15.03	18.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

① Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

② Added joint sealer type 07-14-2010 by MJT Checked by: CJF 7-14-2010

DETAILS OF STANDARD TYPE C APPROACH GUTTERS

ROUTE SEC.

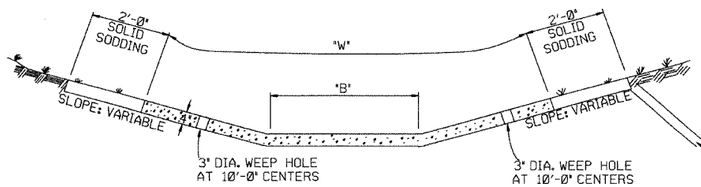
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016C.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD. DATE:

BRIDGE NO. DRAWING NO. 2016C

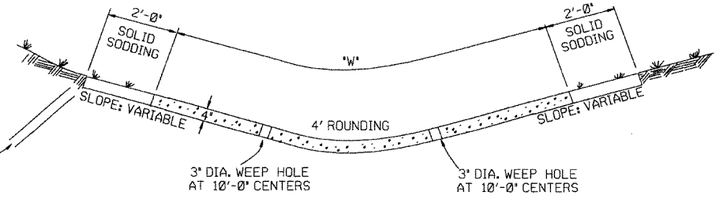
REFER TO TABULATION OF QUANTITIES FOR "W" & "B" DIMENSIONS



TYPE A

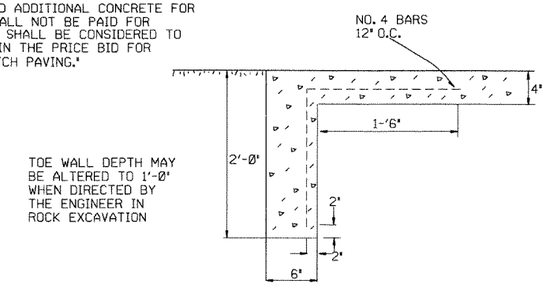
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

REFER TO TABULATION OF QUANTITIES FOR "W" DIMENSIONS



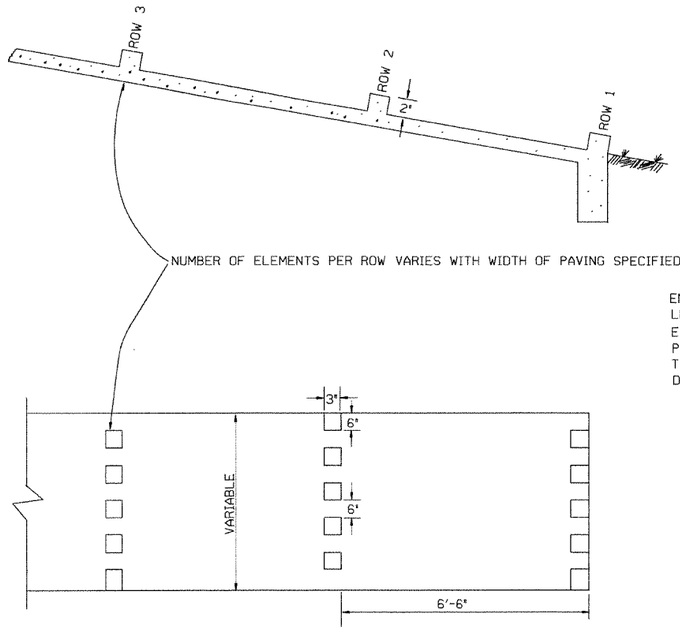
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

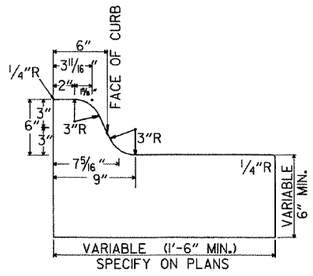
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

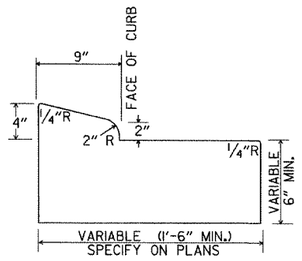
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

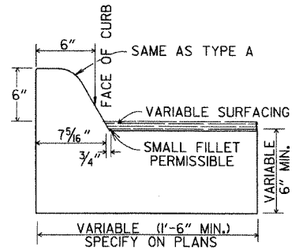
STANDARD DRAWING CDP-1



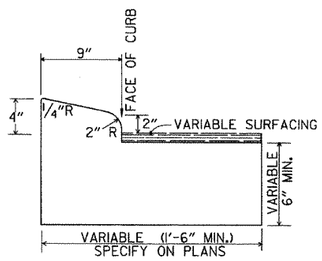
TYPE A



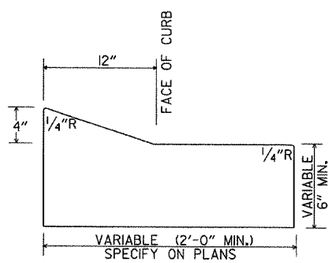
TYPE B-1



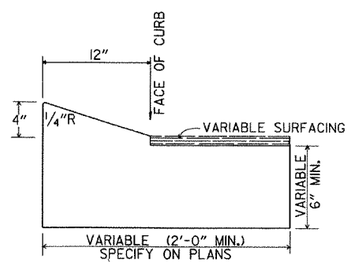
TYPE C



TYPE B-2

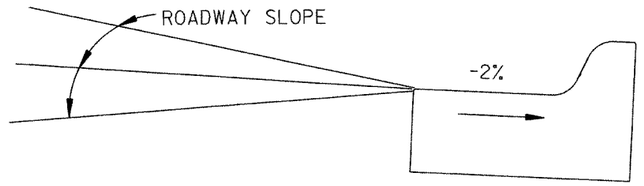


TYPE E-1



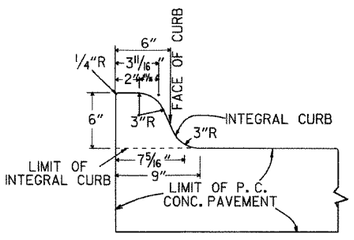
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

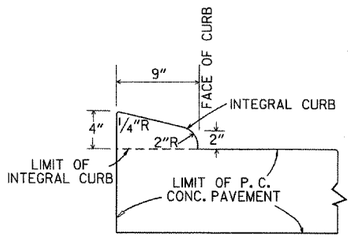


DETAIL OF GUTTER SLOPE

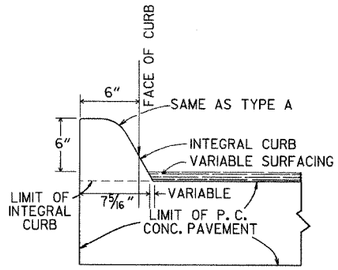
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

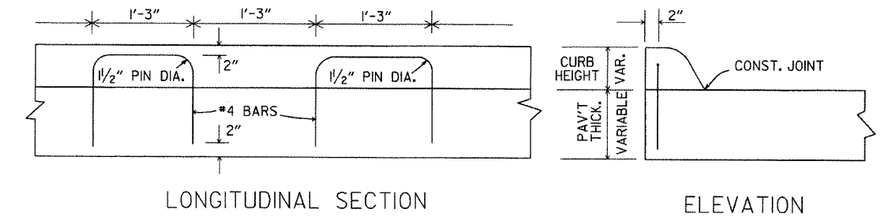


TYPE B



TYPE C

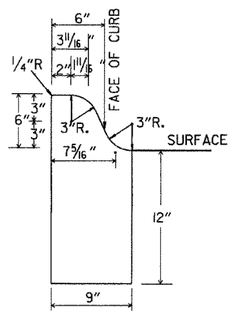
INTEGRAL CURB



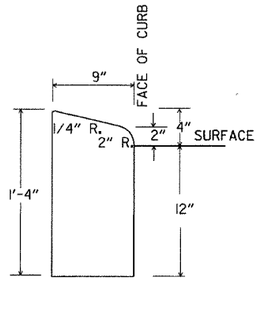
LONGITUDINAL SECTION

ELEVATION

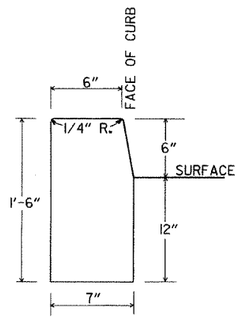
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



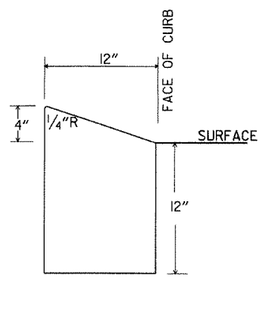
TYPE A



TYPE B

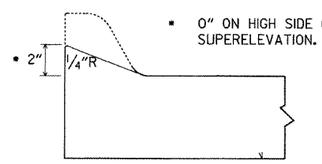


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

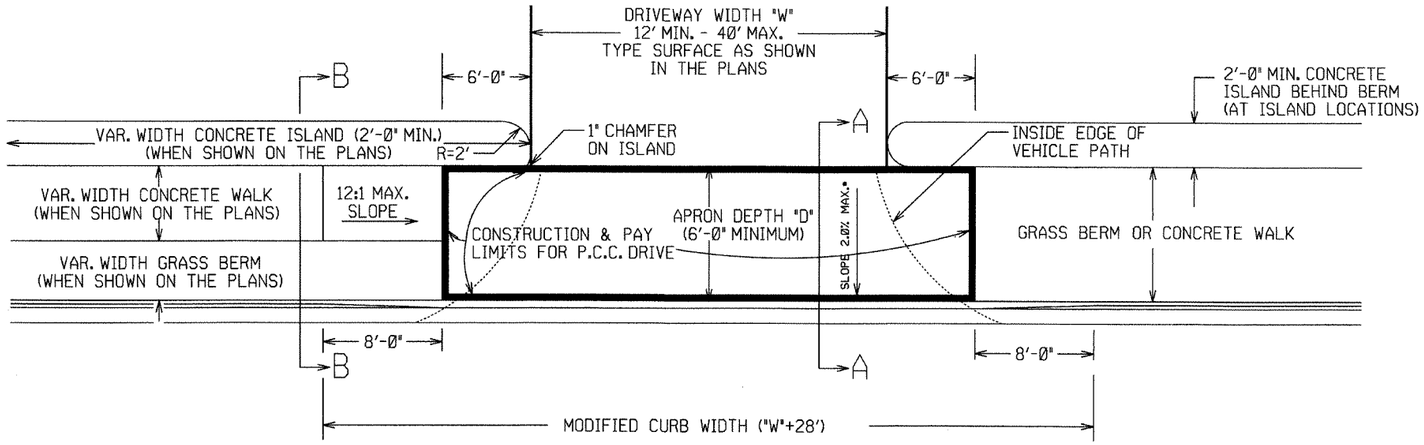
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

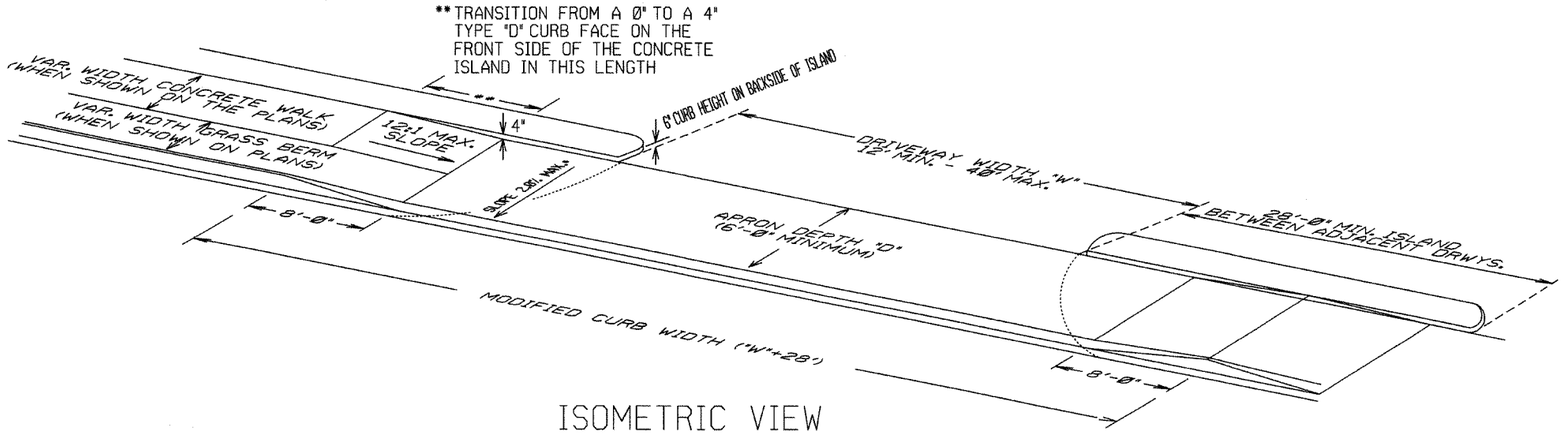
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

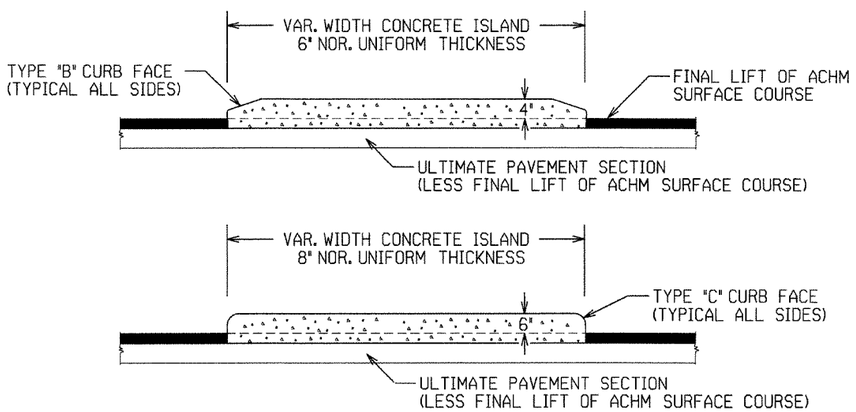
STANDARD DRAWING CG-1



PLAN VIEW

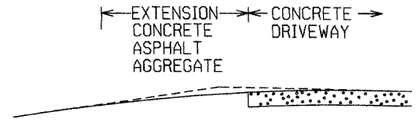


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

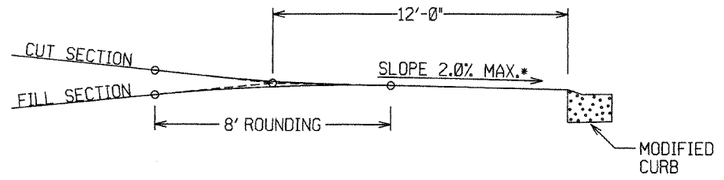
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

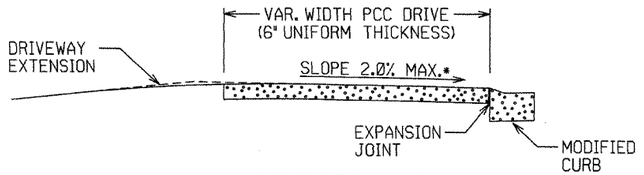
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

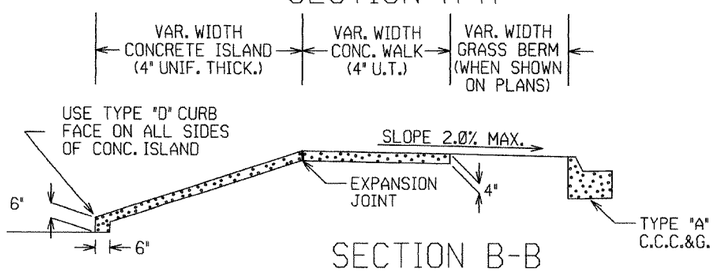


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



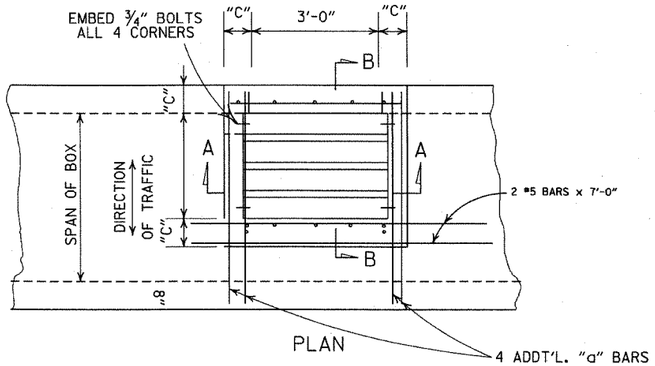
SECTION A-A



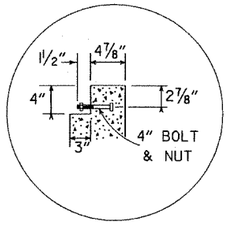
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

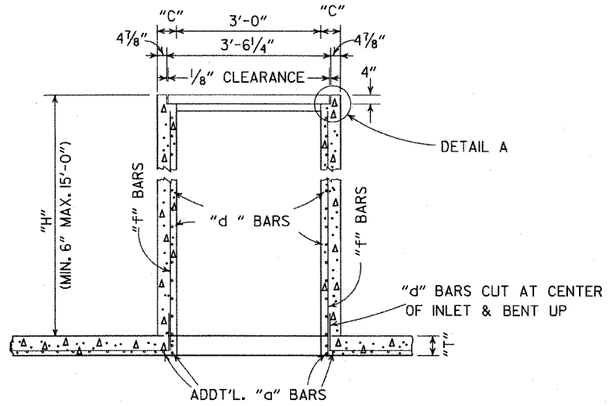
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



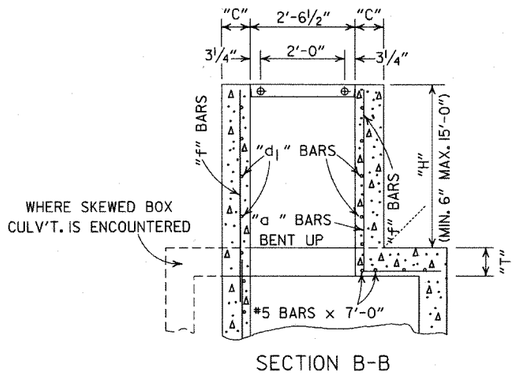
PLAN



DETAIL A



SECTION A-A

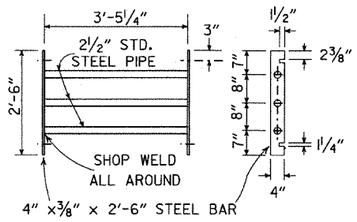


SECTION B-B

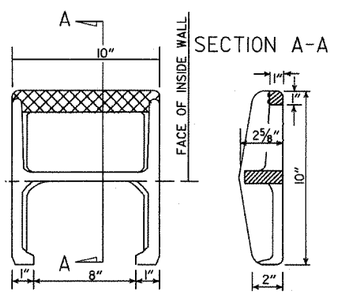
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

GENERAL NOTES:

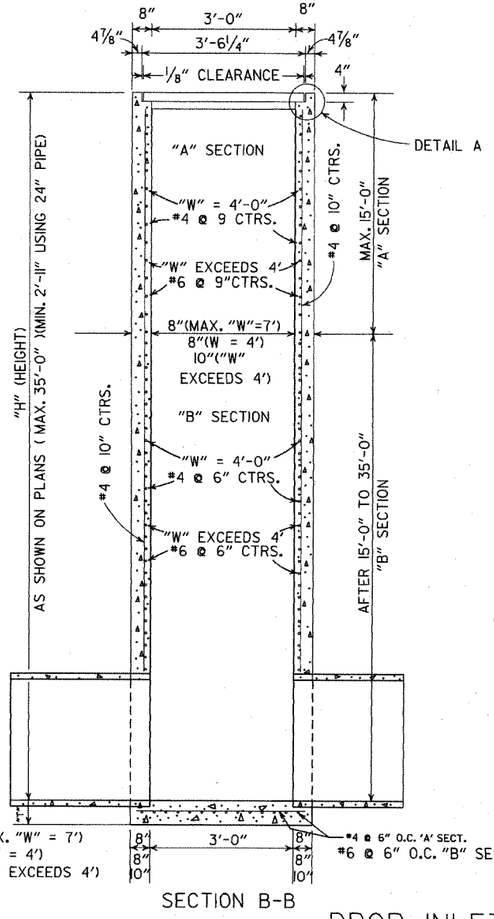
1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

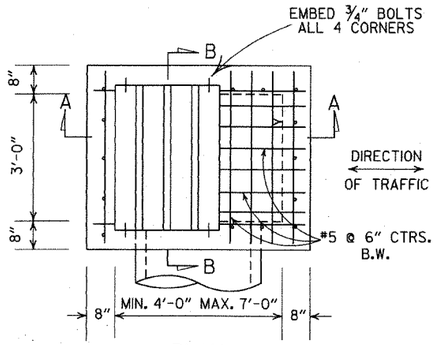
157

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

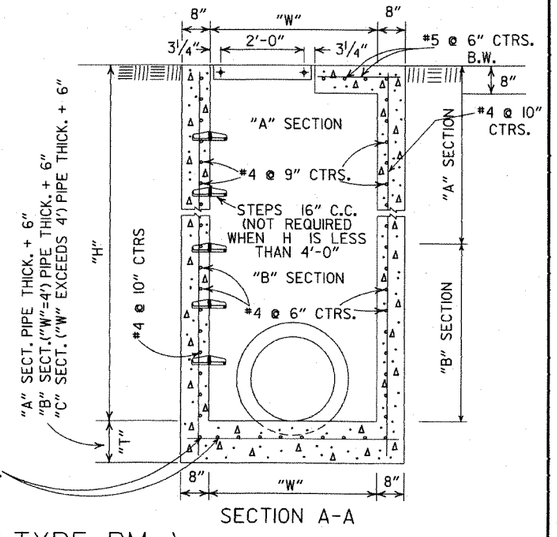
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

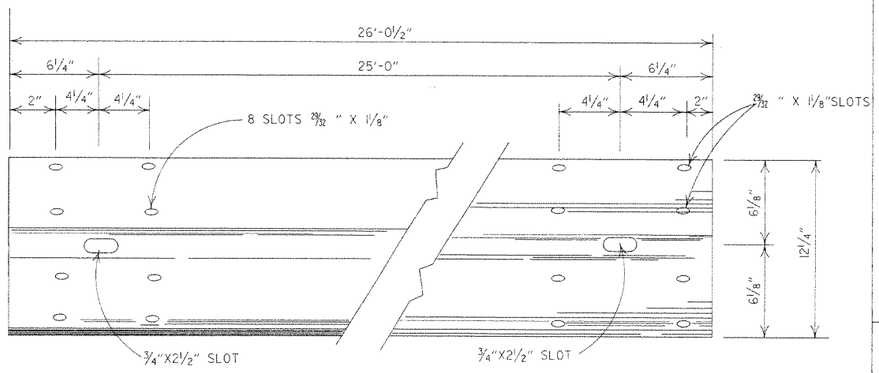
DROP INLET(TYPE RM)

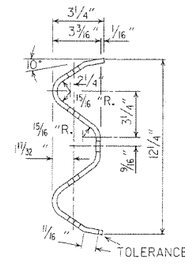
REVISED		DATE FILMED
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

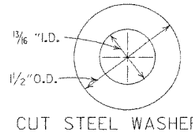




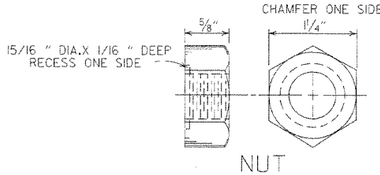
DETAILS OF W-BEAM GUARD RAIL

RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.

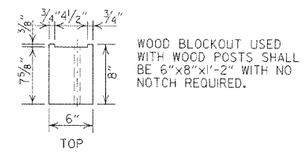
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

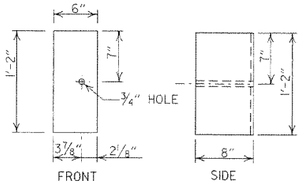


NUT

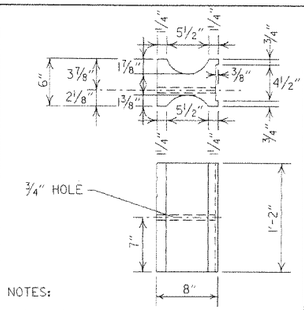


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"X8"X1'-2" WITH NO NOTCH REQUIRED.

TOP



WOOD BLOCKOUT (W-BEAM)

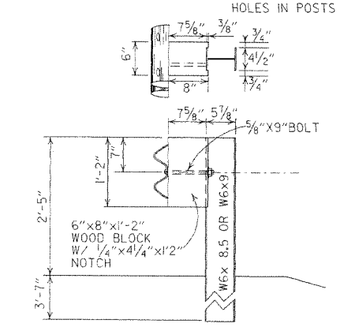


NOTES:

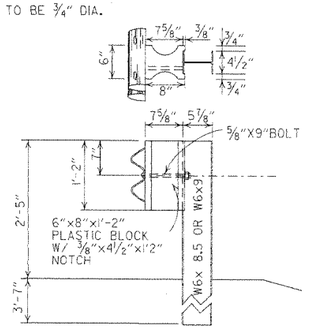
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.

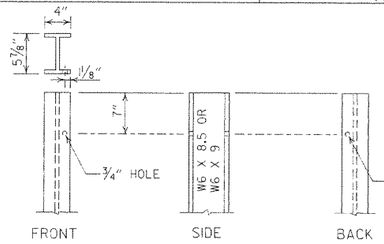


WOOD BLOCKOUT CONNECTIONS

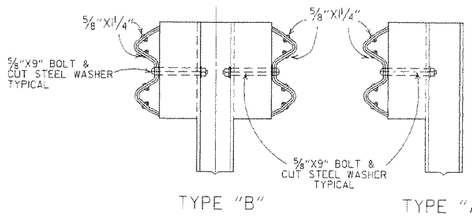


PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

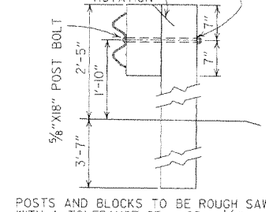
USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 #) OR NO. 1 1350 # SOUTHERN PINE.

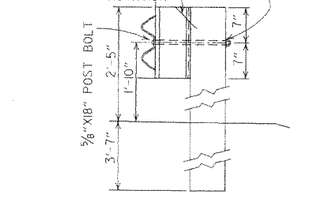
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

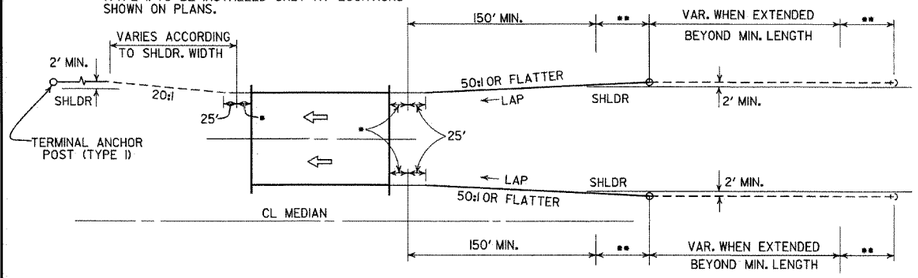
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED W.T. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

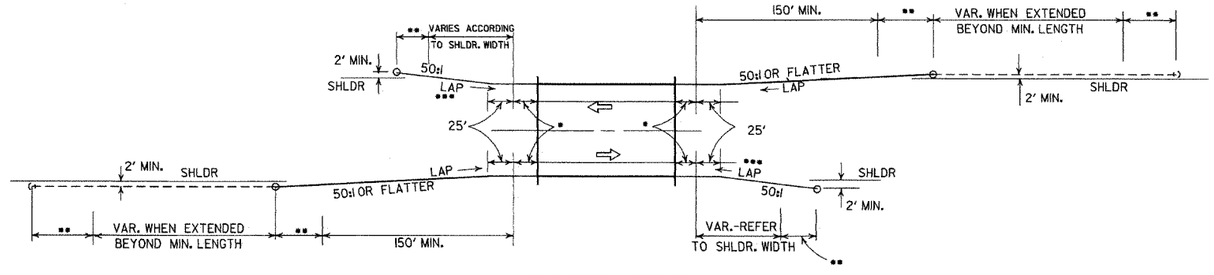
STANDARD DRAWING GR-8

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

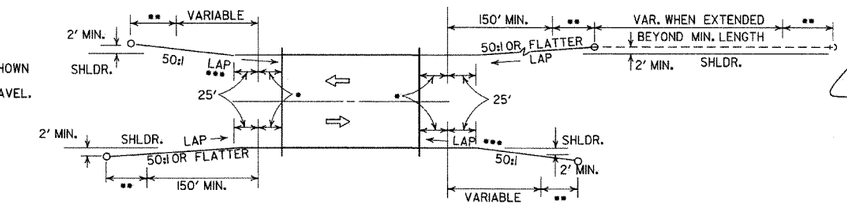
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

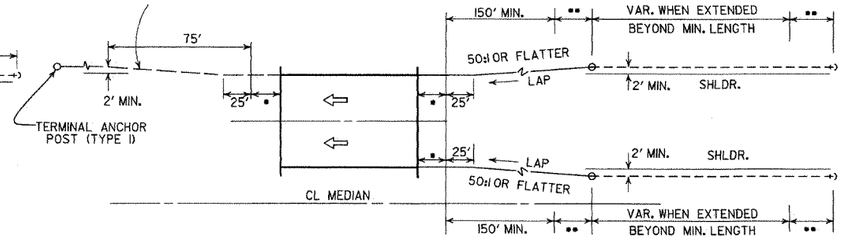
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

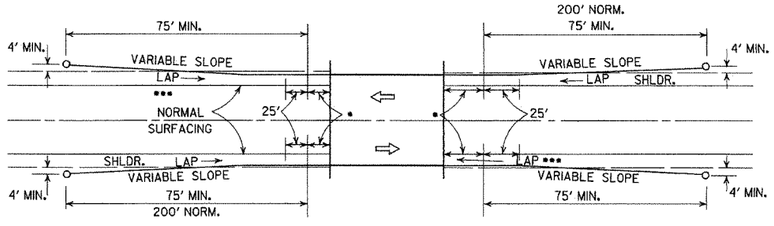
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

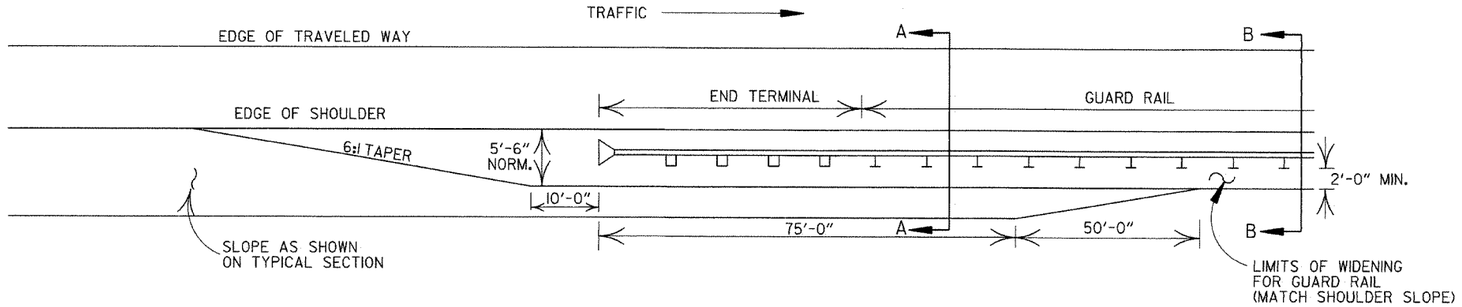
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

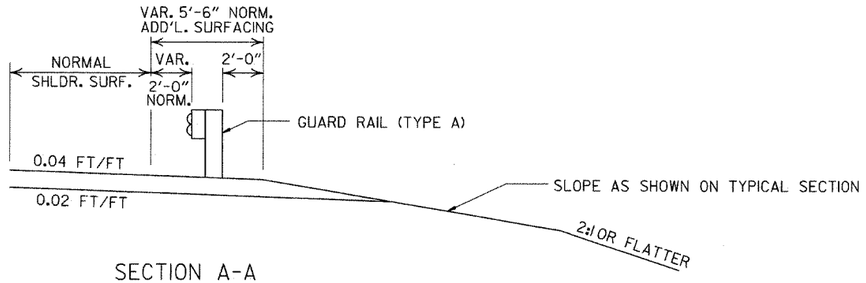
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

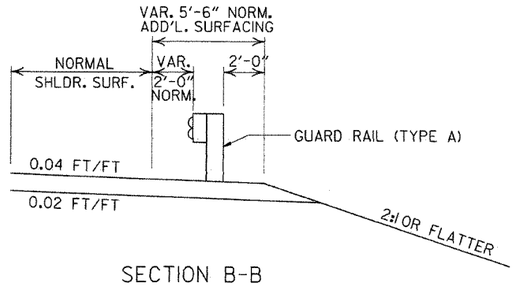
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





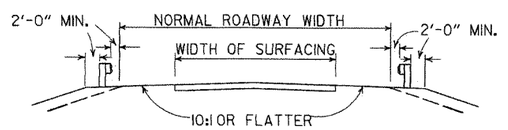
SECTION A-A



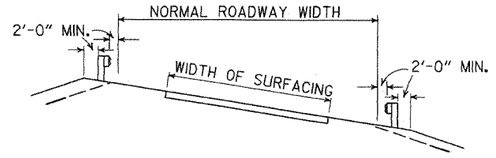
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

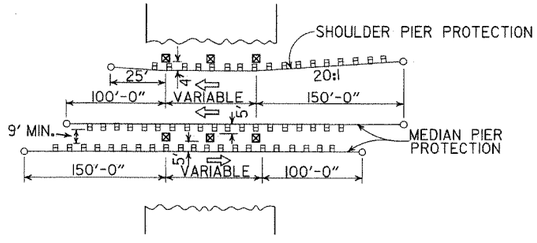


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



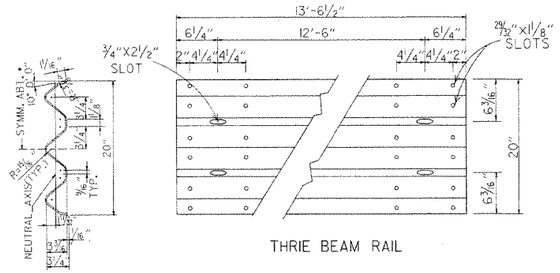
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

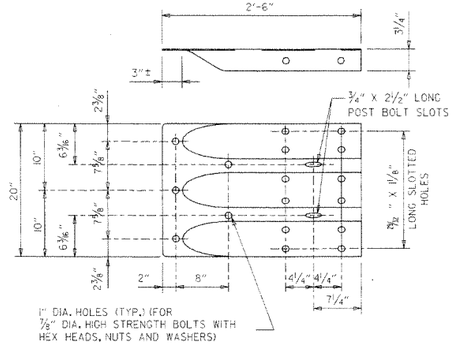
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



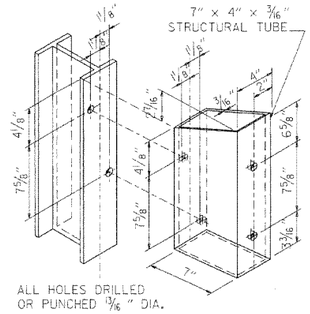
THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

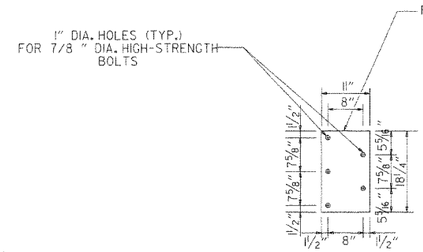
SPECIAL END SHOE



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

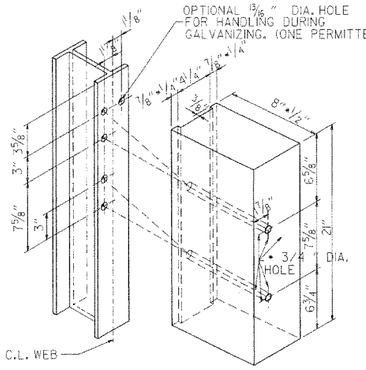
ALL HOLES DRILLED OR PUNCHED 13/16" DIA.

STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



CONNECTOR PLATE

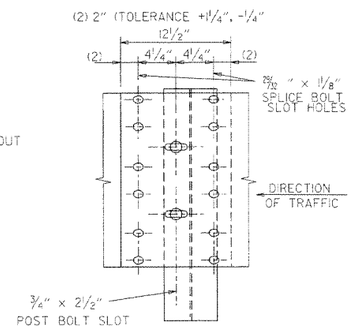
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



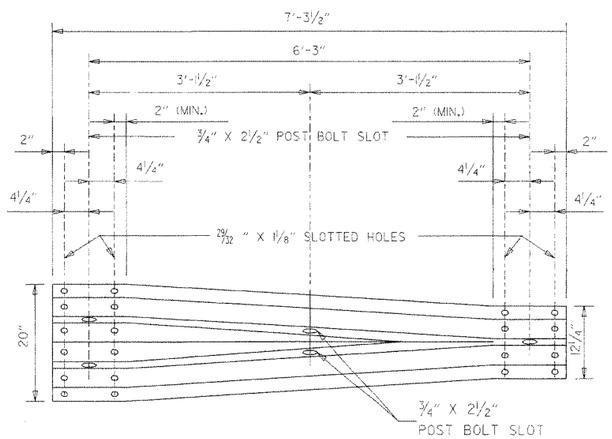
ALL HOLES 3/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

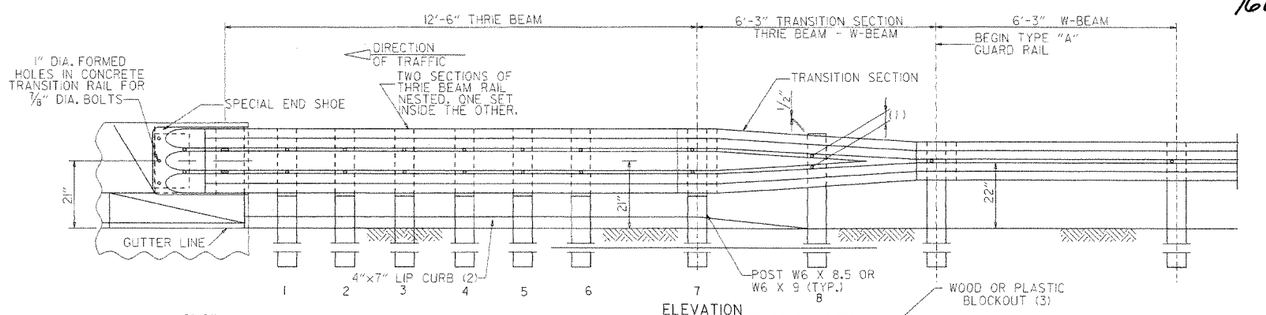
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



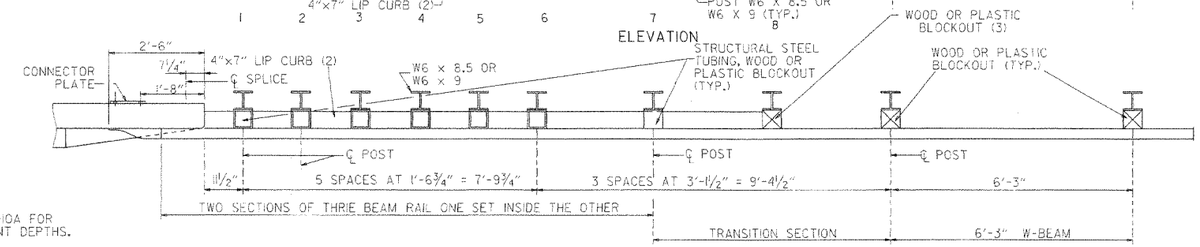
THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

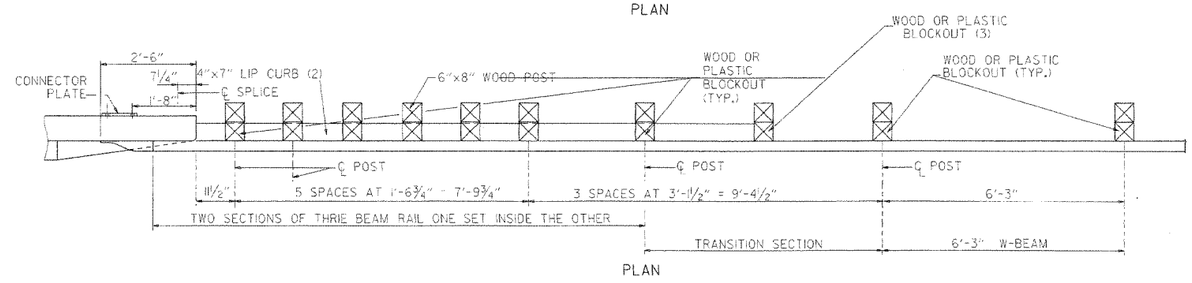


ELEVATION



PLAN

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE II.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

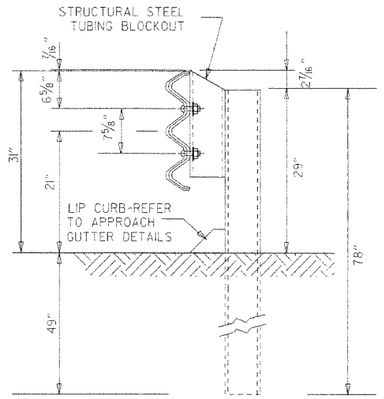
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

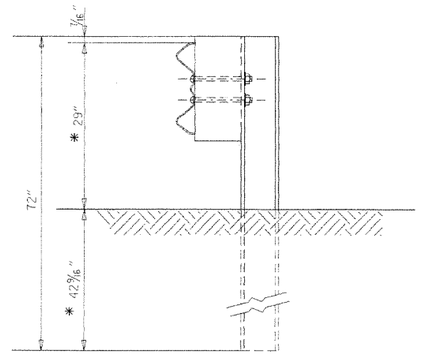
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

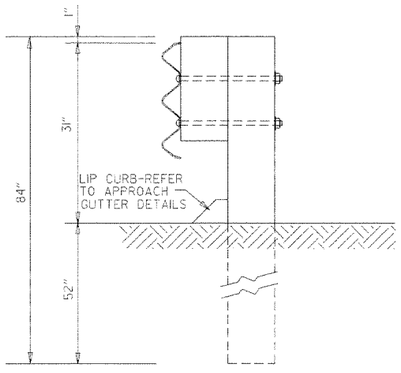


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

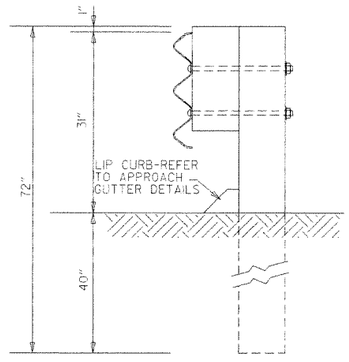


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

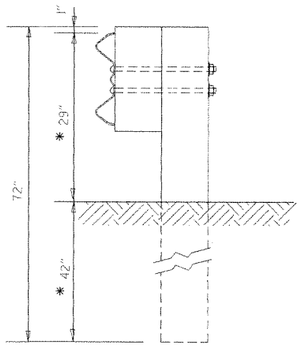
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

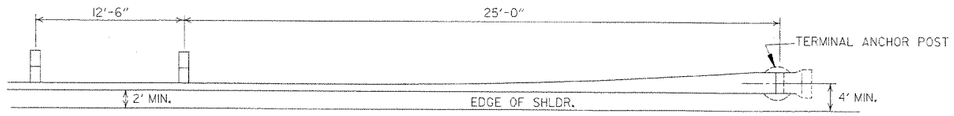
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

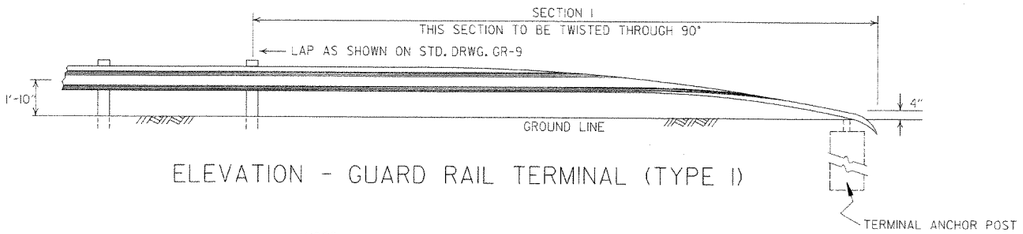
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

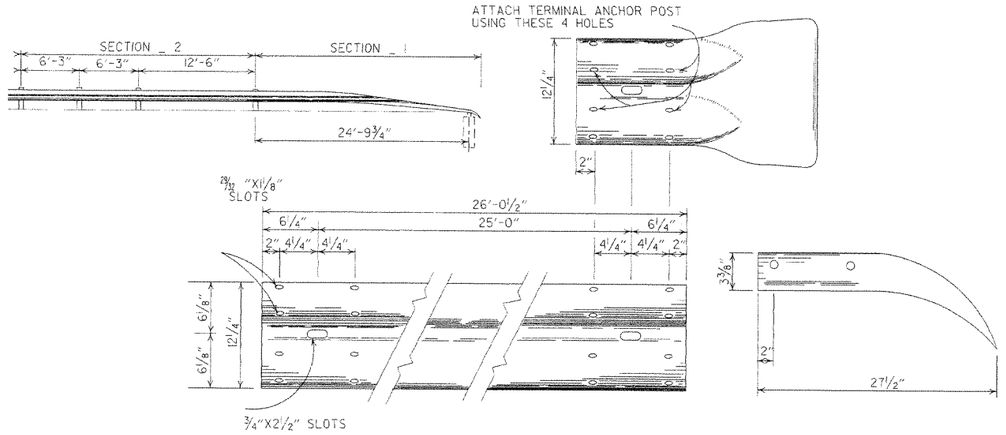


PLAN - GUARD RAIL TERMINAL (TYPE I)



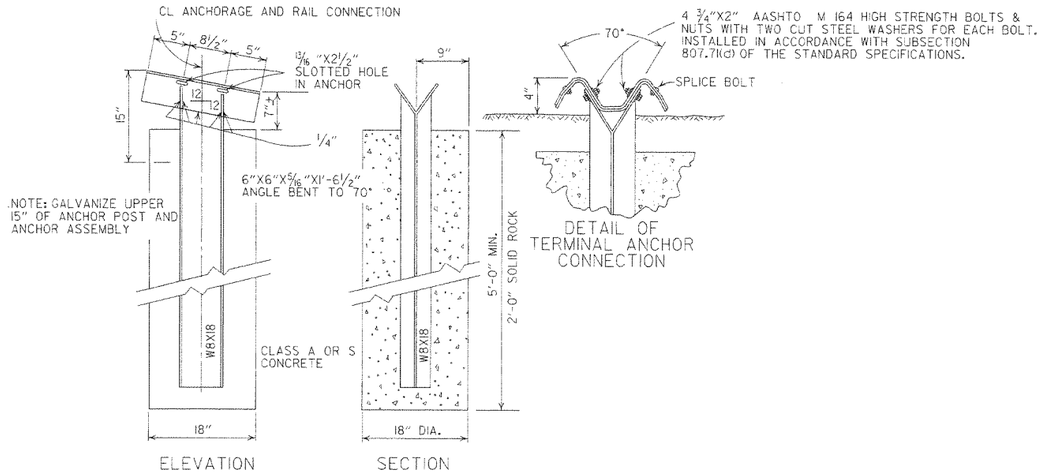
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-1-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GRT-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

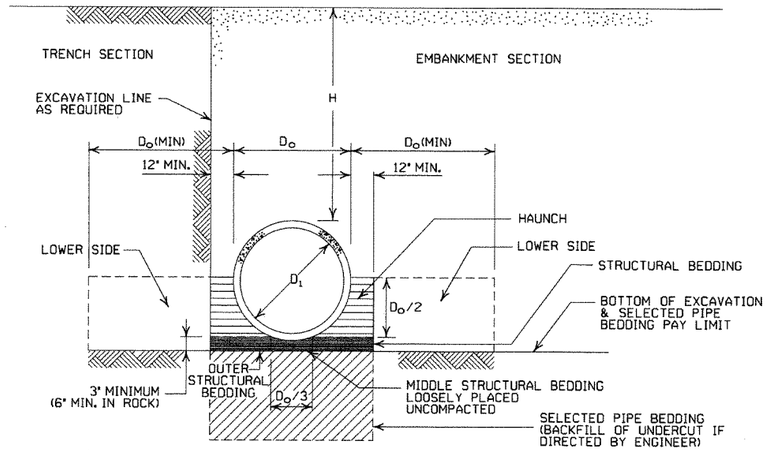
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	①MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION TYPE 2	INSTALLATION TYPE 1		INSTALLATION TYPE 2	INSTALLATION TYPE 1
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

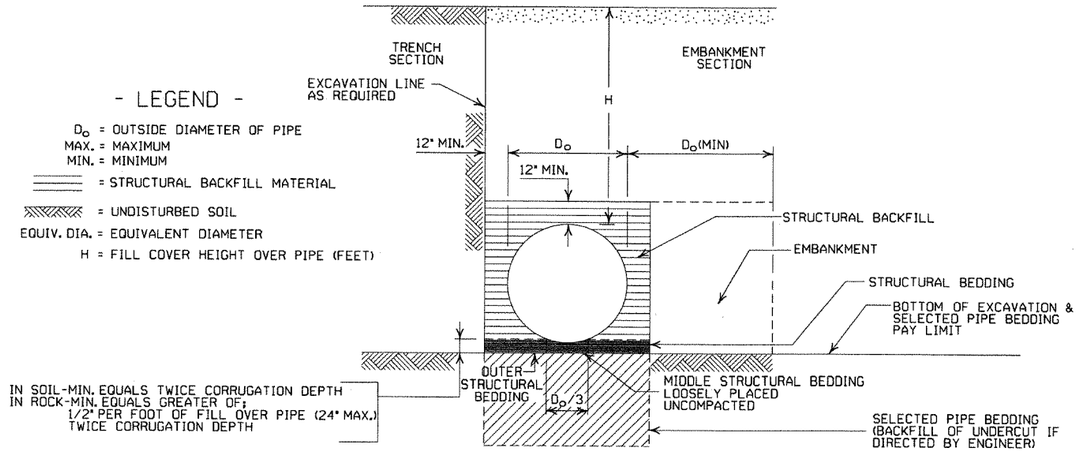
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

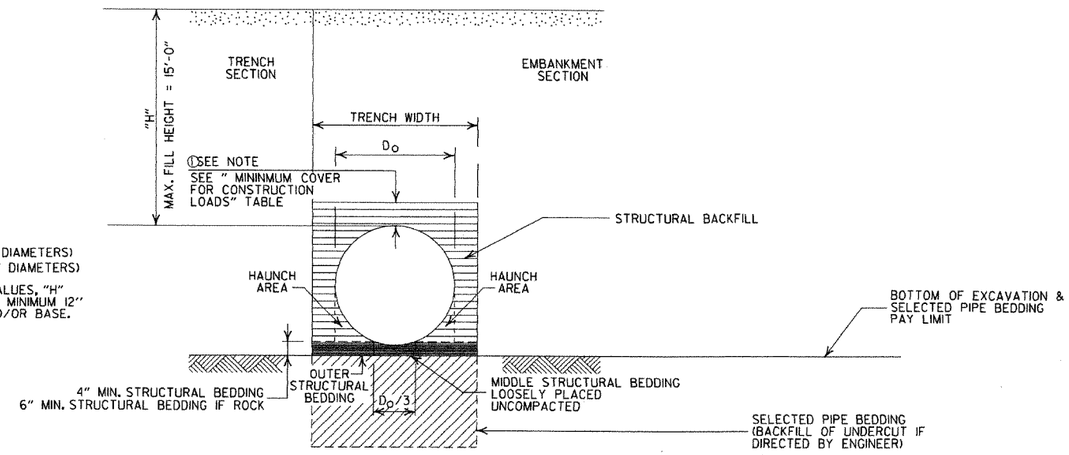
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
Ø = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

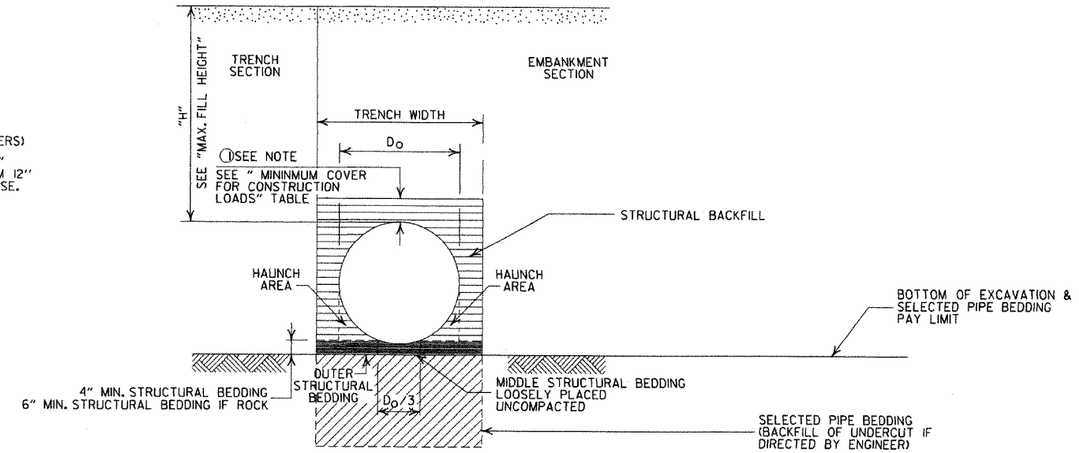
MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

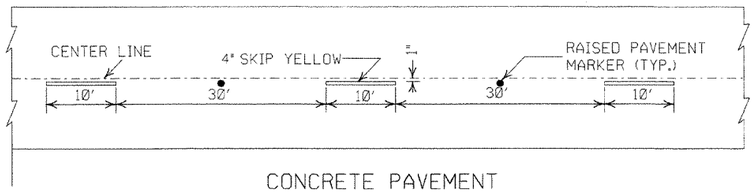
= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

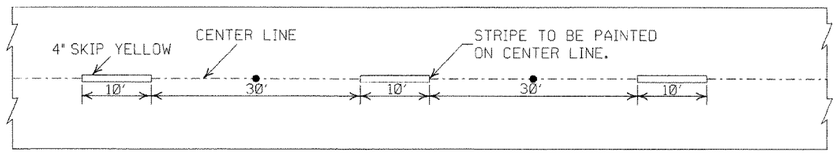
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

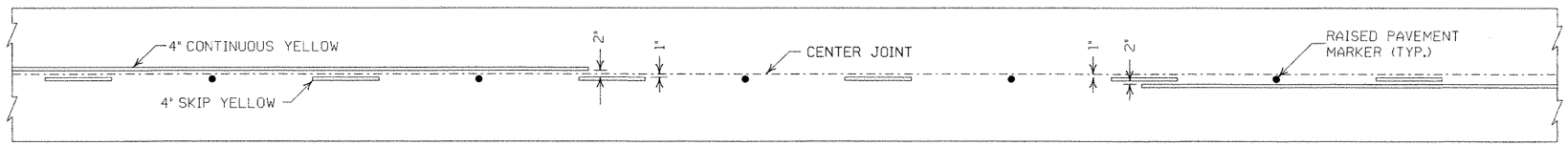


CONCRETE PAVEMENT

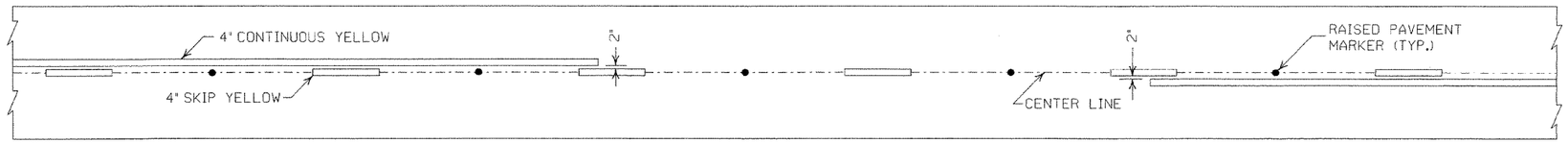


ASPHALT PAVEMENT

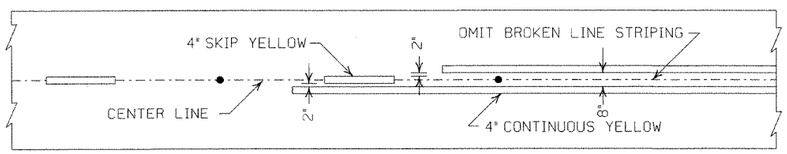
BROKEN LINE STRIPING



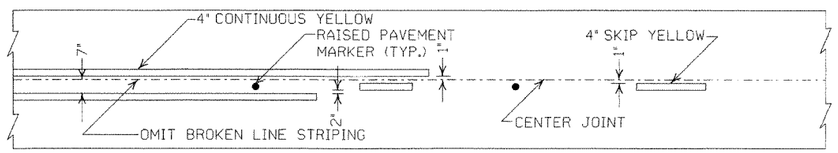
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

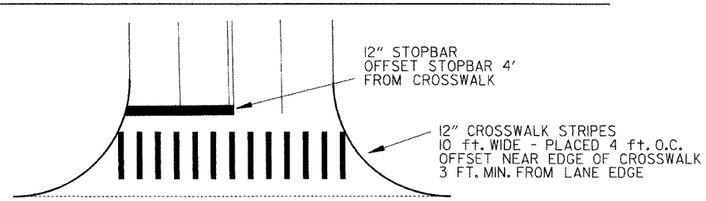
GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:

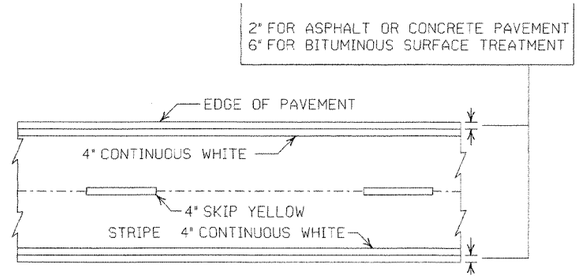
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



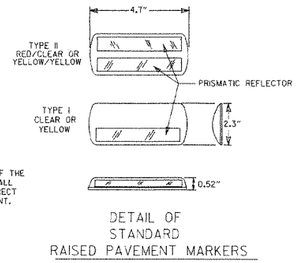
CROSSWALK AND STOPBAR DETAILS

NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

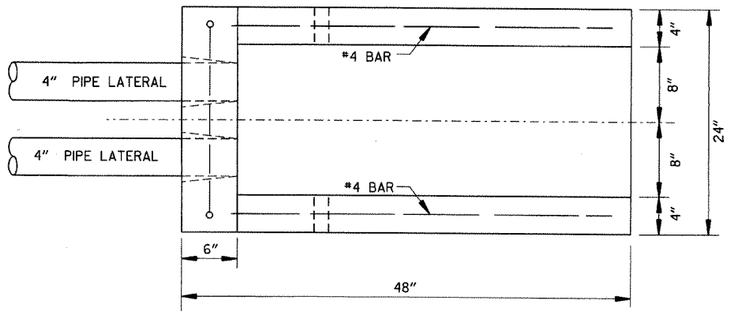
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

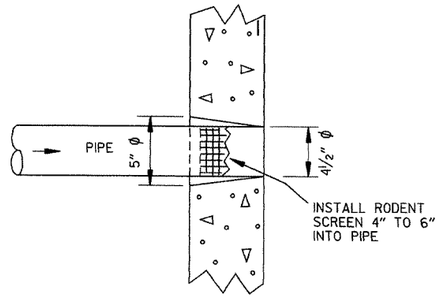
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

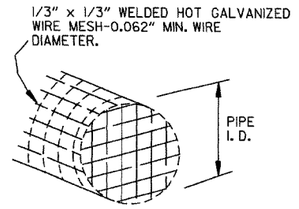
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



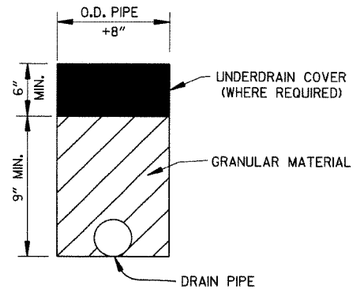
PLAN VIEW

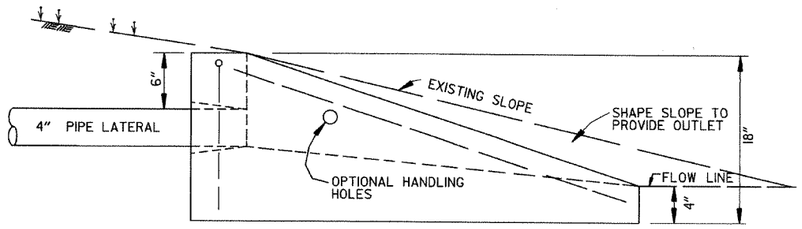


DETAIL OF HOLE FOR 4" PIPE

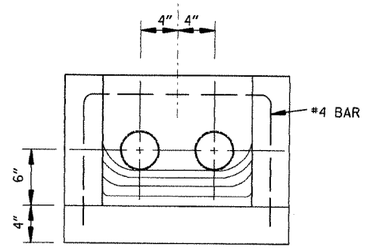


DETAIL OF RODENT SCREEN

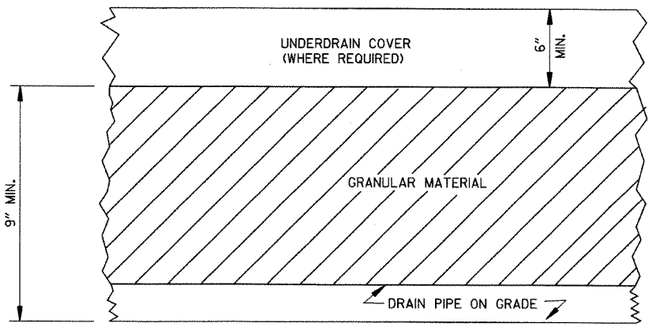




SIDE VIEW

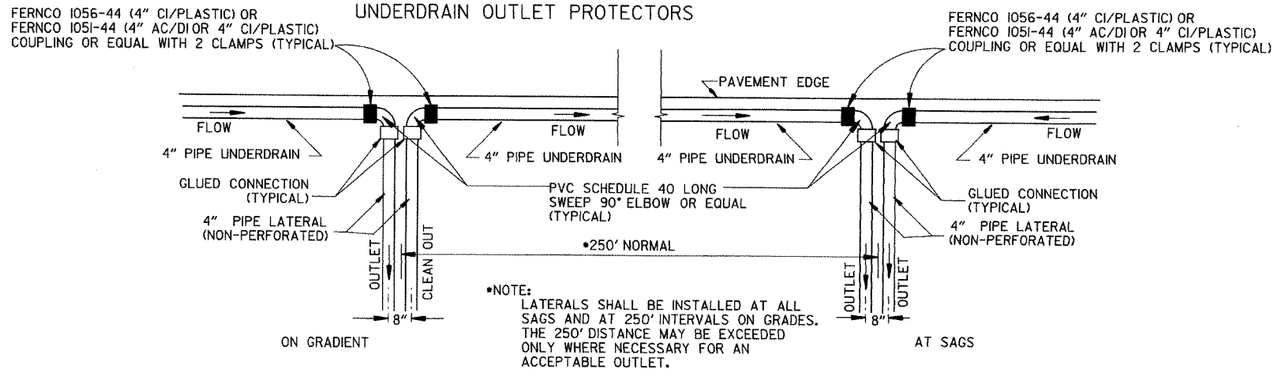


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

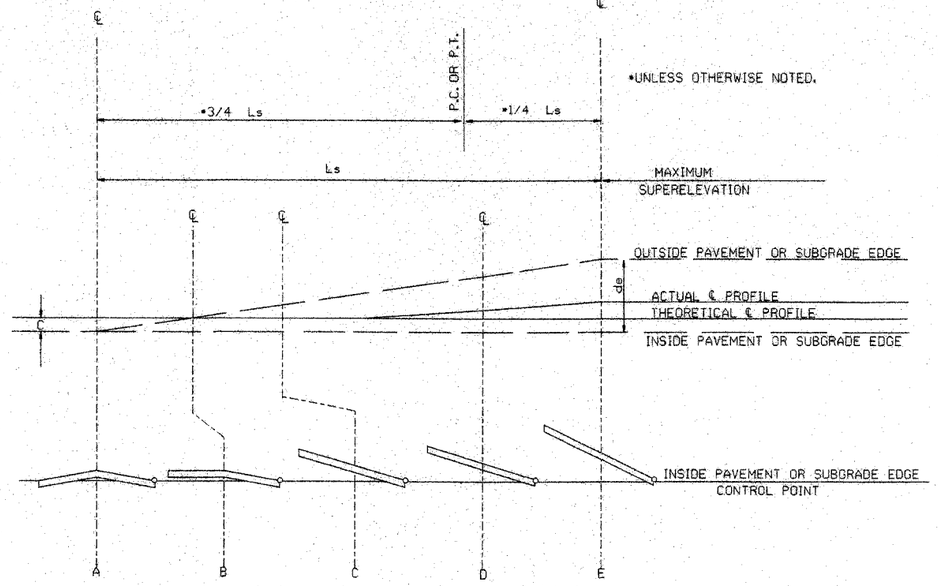
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45'	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00'	N.C.			N.C.			0.021			0.026			0.030			0.037		
1° 15'	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30'	N.C.			0.021			0.031			0.037			0.043			0.054		
1° 45'	N.C.			0.025			0.036			0.043			0.049			0.062		
2° 00'	R.C.			0.028	175		0.040	200		0.048	225		0.055	250		0.070	275	
2° 15'	R.C.			0.031			0.045			0.053			0.061			0.078		300
2° 30'	0.021			0.034			0.049			0.058			0.067			0.085	300	
2° 45'	0.023			0.037			0.053			0.063			0.072			0.091	315	350
3° 00'	0.025			0.040			0.057			0.067	230		0.077	260		0.096	335	
3° 15'	0.027	150		0.043		200	0.061			0.072	245		0.082	275		0.098	350	
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	400
3° 45'	0.031		200	0.049			0.069	215		0.080	265		0.090	295				
4° 00'	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30'	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00'	0.040			0.061			0.083	250		0.091	295	350	0.098	320				
5° 30'	0.043			0.066	185		0.088	260		0.094	300							
6° 00'	0.046			0.070	190		0.092	270		0.096	305							
6° 30'	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00'	0.053			0.078	210		0.098	285										
7° 30'	0.056			0.081	215		0.099	290										
8° 00'	0.058			0.084	220		0.100	290										
8° 30'	0.061			0.087	225	250												
9° 00'	0.063			0.089	230													
10° 00'	0.068	160		0.094	235													
11° 00'	0.072	170		0.097	250													
12° 00'	0.076	175		0.099	250													
13° 00'	0.080	180		0.100	250													
14° 00'	0.083	190																
15° 00'	0.086	195																
16° 00'	0.089	200																
17° 00'	0.091	200																
18° 00'	0.093	205																
19° 00'	0.095	210																
20° 00'	0.097	215	250															
21° 00'	0.098	215																
22° 00'	0.099	215																
23° 00'	0.099	215																
24° 00'	0.100	220																

D MAX = 24° 45' D MAX = 13° 15' D MAX = 8° 15' D MAX = 6° 30' D MAX = 5° 15' D MAX = 3° 30'

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

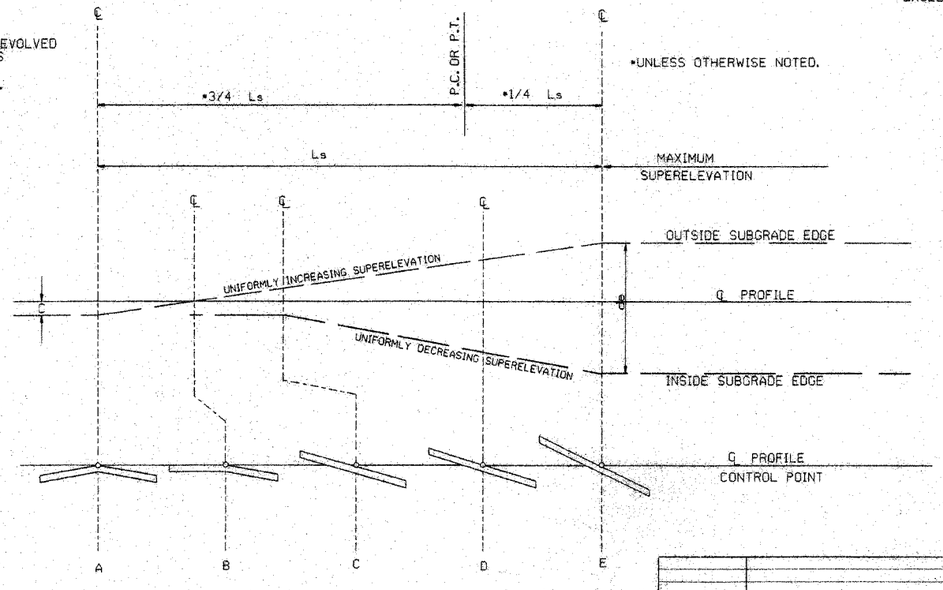
GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

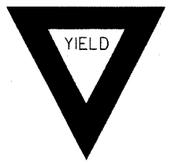
FILE STDSE2.DGN

R1-1



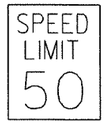
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5A



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



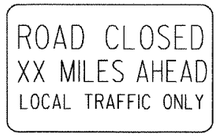
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



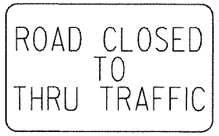
48"X30"

R11-3A



60"X30"

R11-4



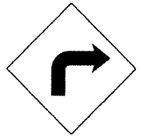
60"X30"

RSP-1



48"X30"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2



STD. 36"X36"
FWY. 48"X48"

W1-3



STD. 48"X48"

W1-4



STD. 48"X48"

W1-6



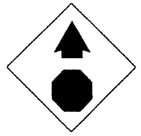
STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



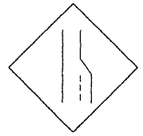
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



EXPWY. 36"X36"
FWY. 48"X48"

W9-2



STD. 36"X36"
FWY. 48"X48"

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



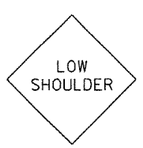
STD. 18"X18"

W8-11



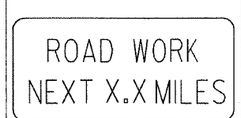
STD. 36"X36"
FWY. 48"X48"

W8-9



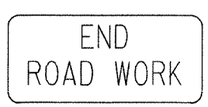
STD. 36"X36"
FWY. 48"X48"

G20-1



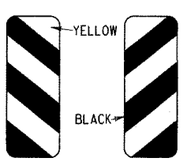
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

M4-9



STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1

FINES DOUBLE
IN WORK ZONES *

WHEN WORKERS
ARE PRESENT **

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

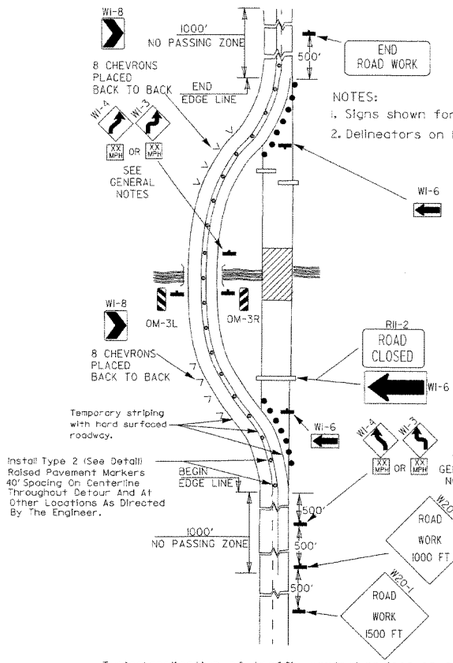
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

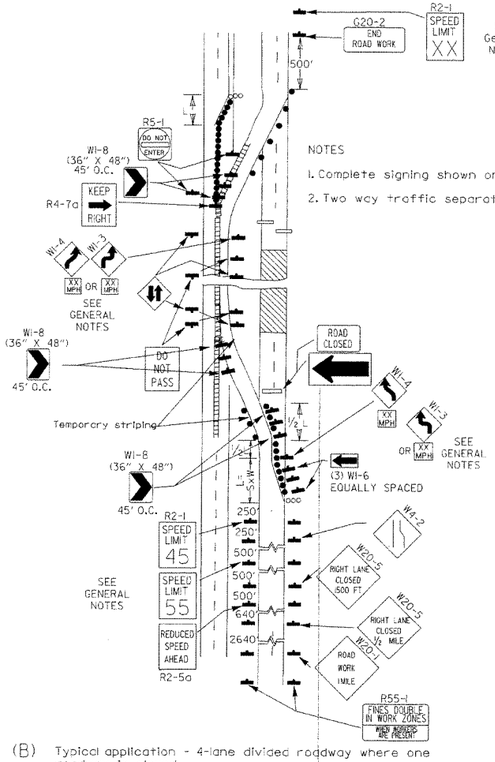
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



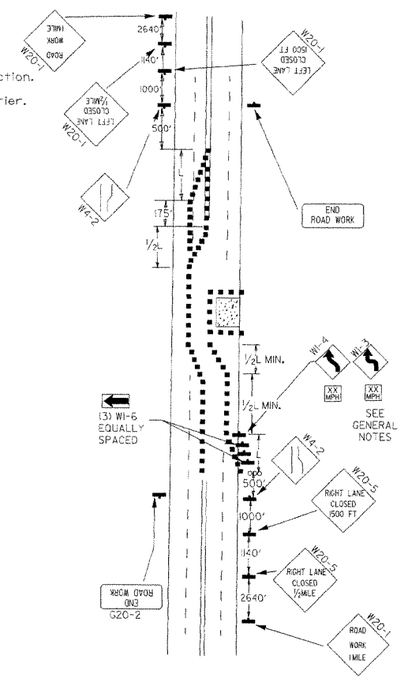
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

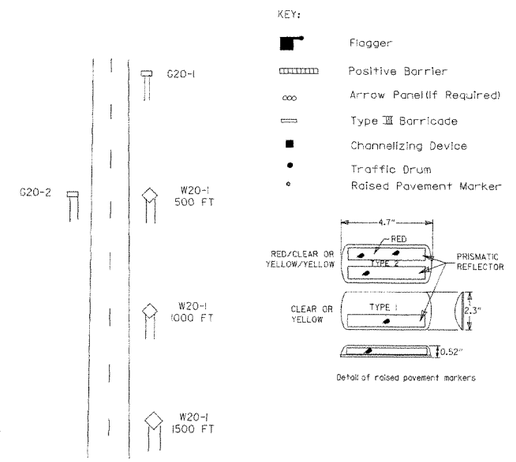


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

(B) Typical application - 4-lane divided roadway where one roadway is closed.



(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



Typical advance warning sign placement

Taper formulae:

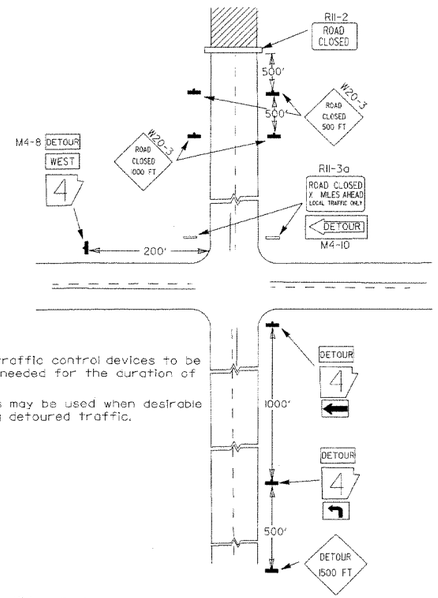
L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

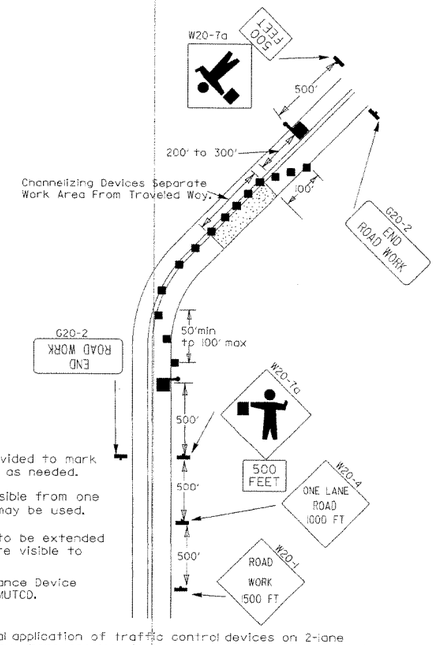
GENERAL NOTES:

1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



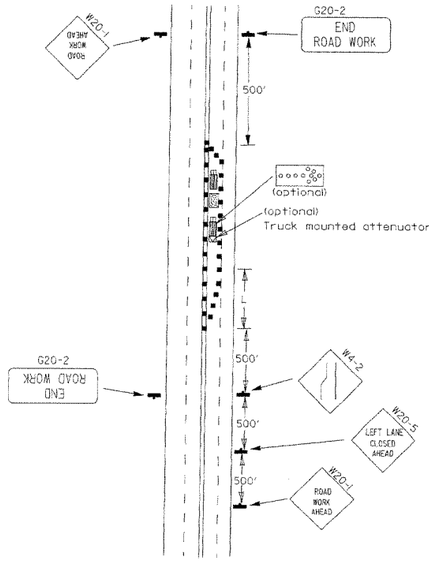
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(D) Typical application - roadway closed beyond detour point.



NOTES:
1. Flood lights should be provided to mark flagger stations at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channelizing devices are to be extended to a point where they are visible to approaching traffic.
4. Automated Flagger Assistance Device (AFAD) optional. Refer to MUTCD.

(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



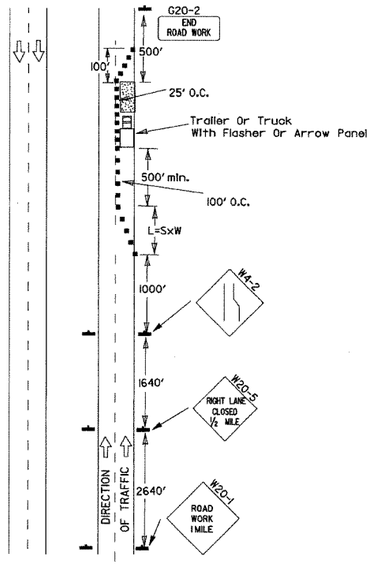
(F) Typical application - 4-lane undivided roadway with inside lane closed.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

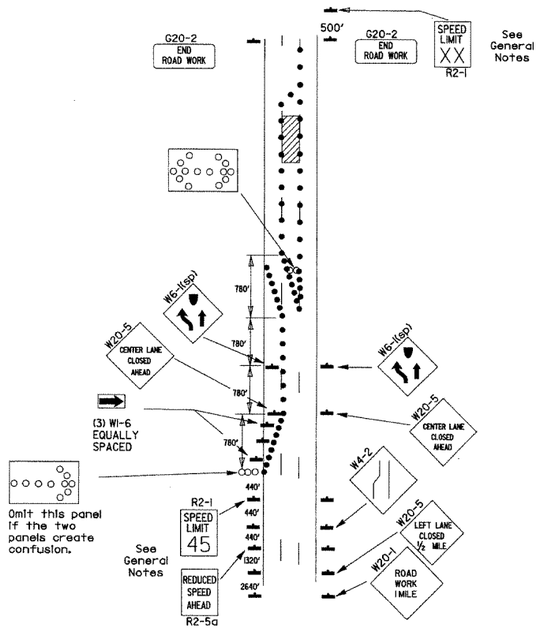
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

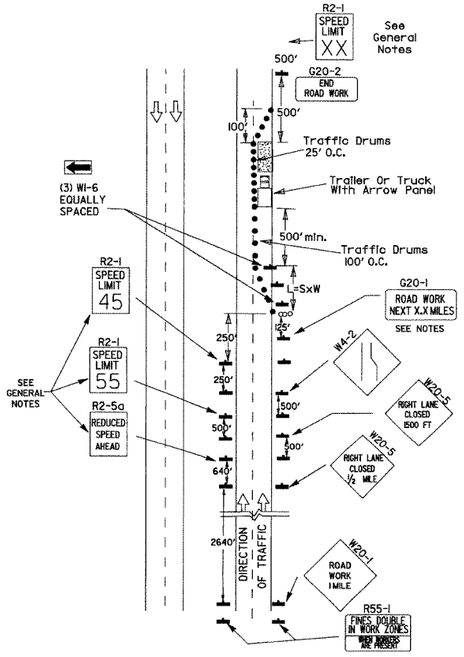
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (if Required)

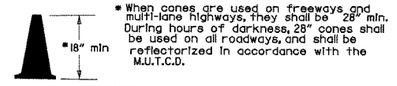
■ Channelizing Device

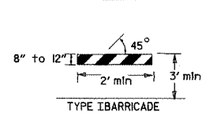
● Traffic drum

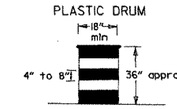
GENERAL NOTES:

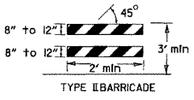
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

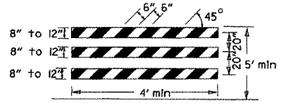
Channelizing devices



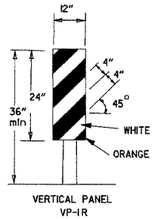




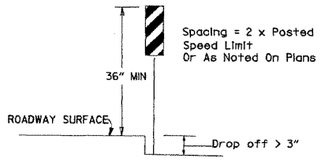




NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



VERTICAL PANEL PLACEMENT



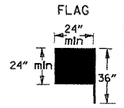
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

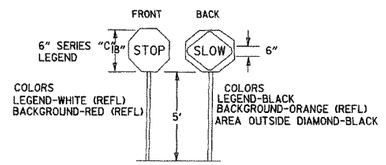
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG



Flag shall be of good grade red material

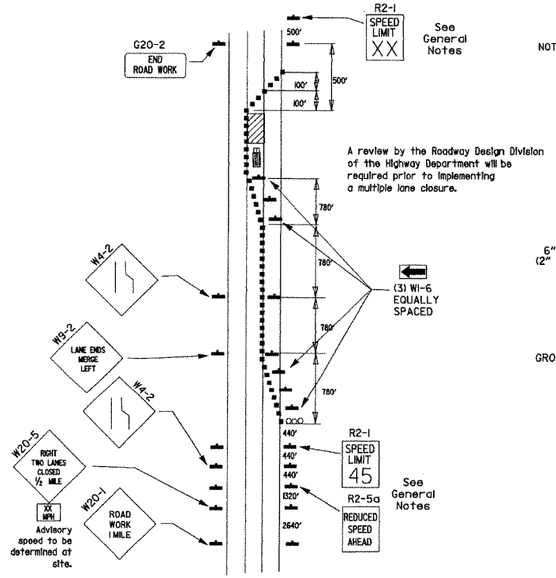
STOP SLOW PADDLE



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



(D) Typical application - closing multiple lanes of a multilane highway.

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

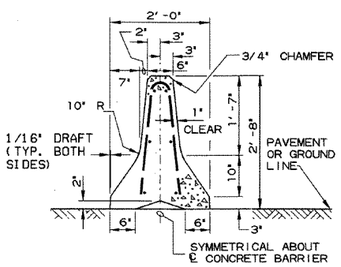
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

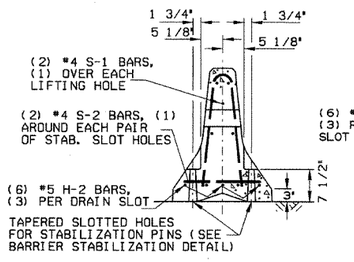
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

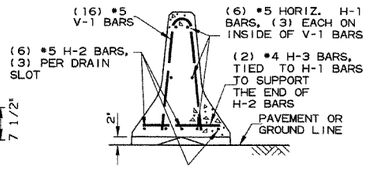
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR, 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 2'-1 3/8", 4 3/8", 1 1/2", ±9"



SECTION A-A

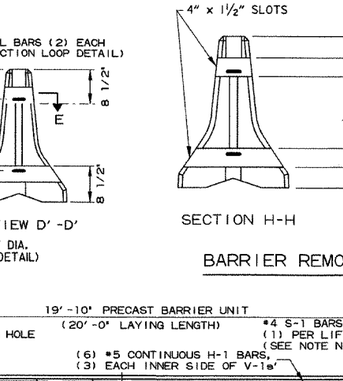


SECTION B-B



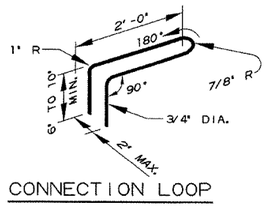
SECTION C-C

CONNECTING PIN

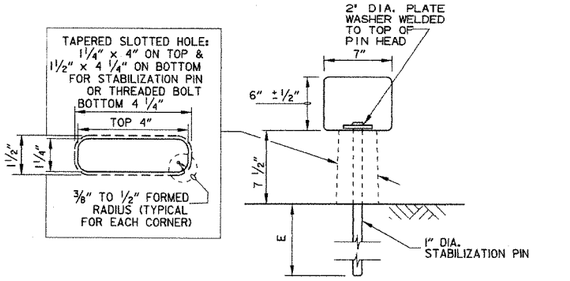


SECTION E-E

CONNECTION DETAILS



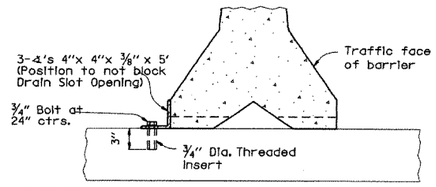
CONNECTION LOOP



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

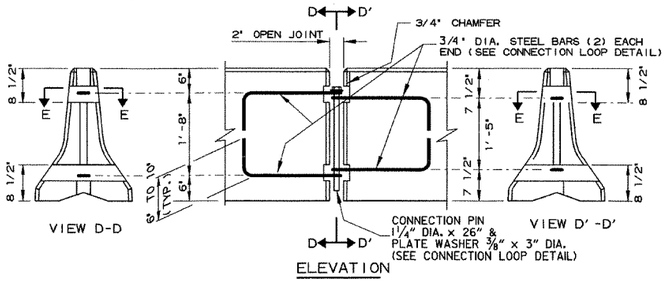
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



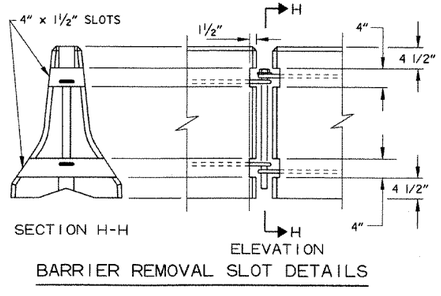
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

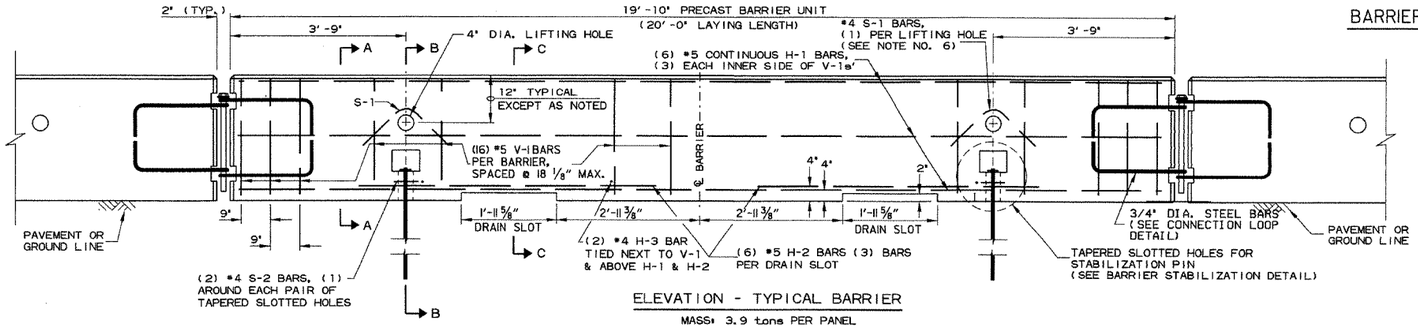
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

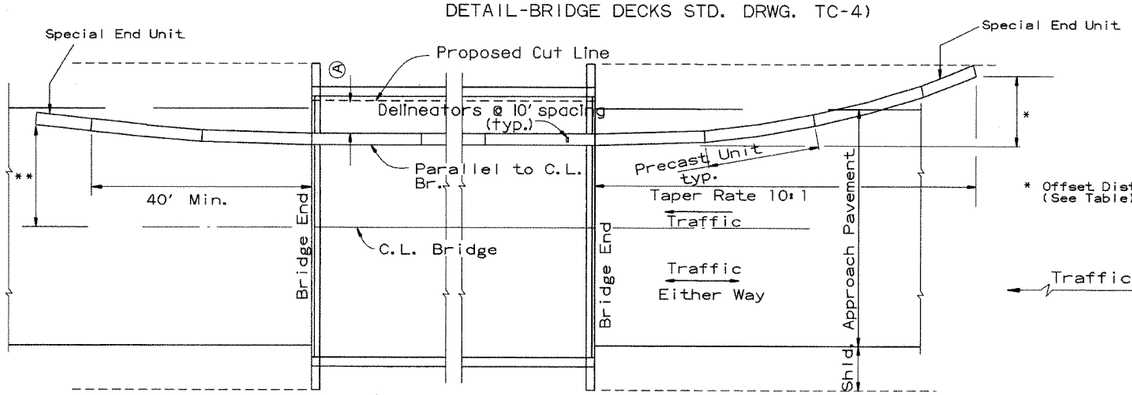
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

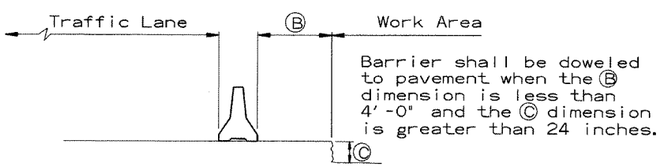


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

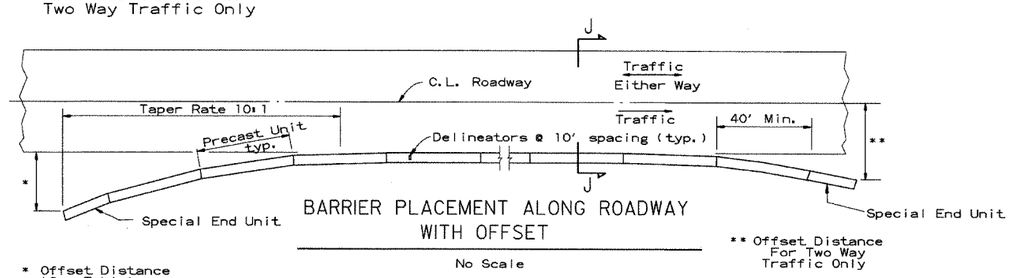
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

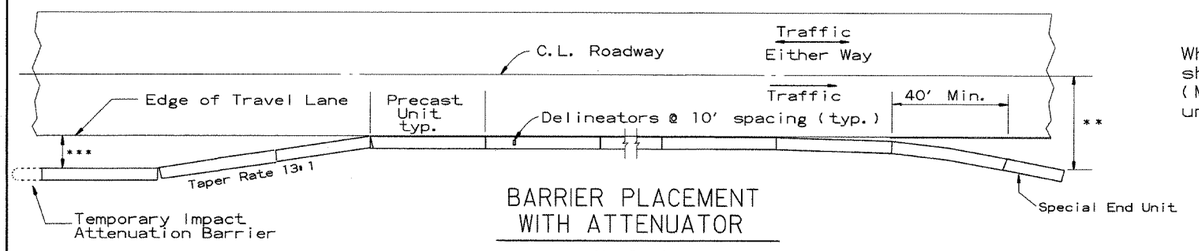
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

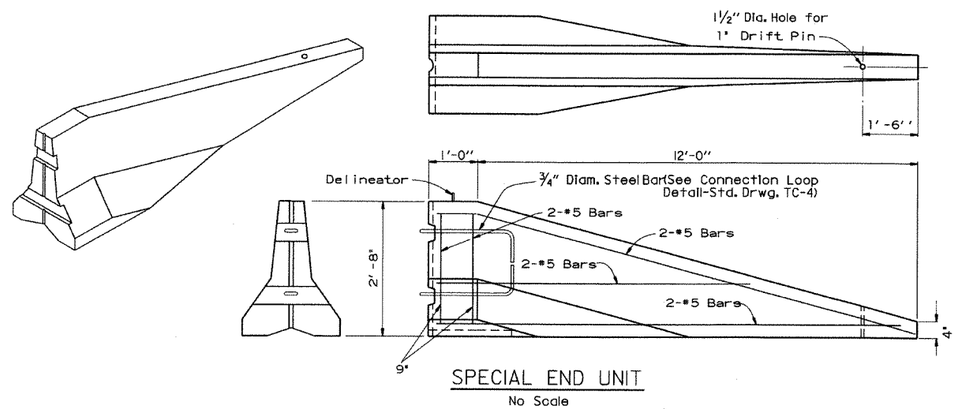


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

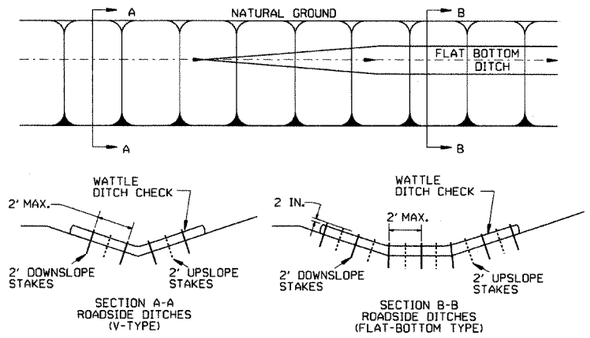
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

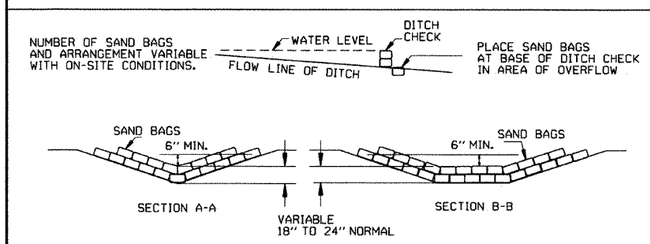
STANDARD DRAWING TC-5

GENERAL NOTES

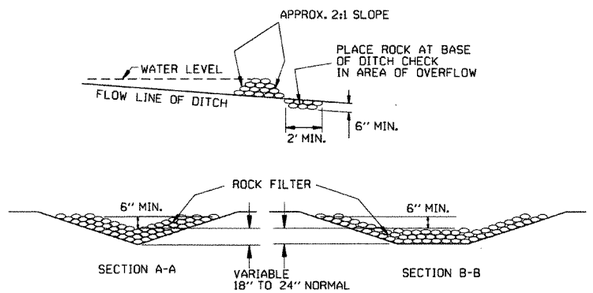
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



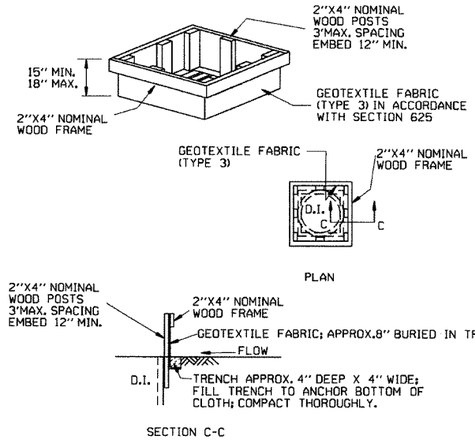
WATTLE DITCH CHECK (E-1)



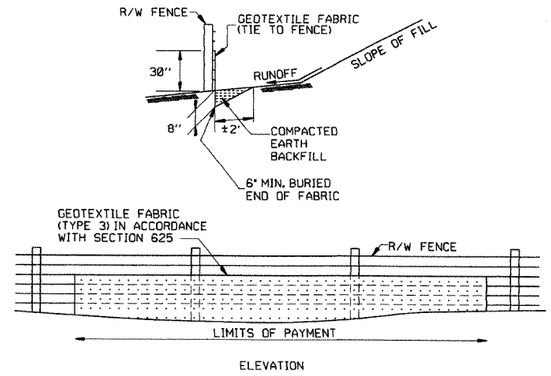
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



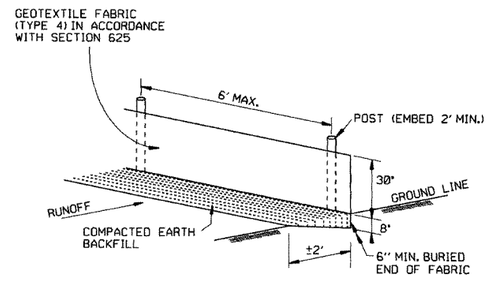
DROP INLET SILT FENCE (E-7)



SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)

GENERAL NOTES

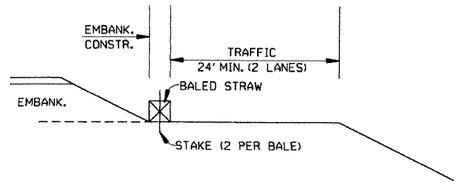
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



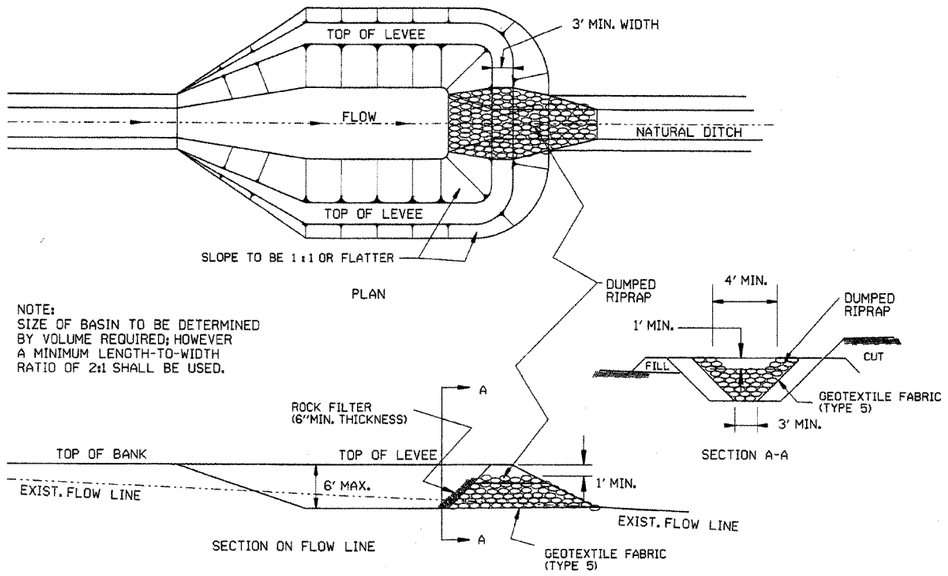
BALED STRAW FILTER BARRIER (E-2)

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

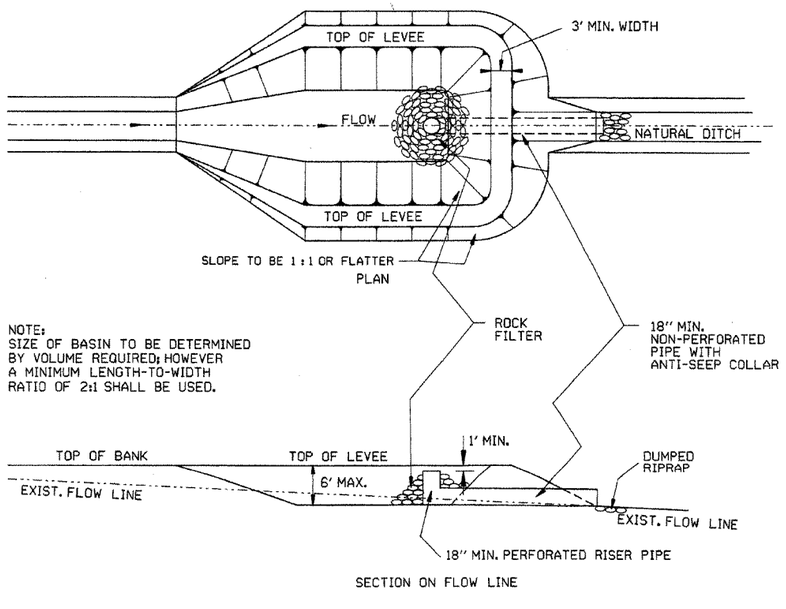
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

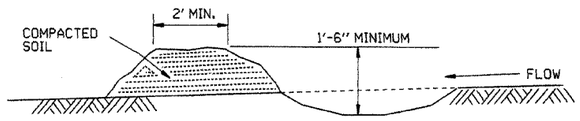
STANDARD DRAWING TEC-1



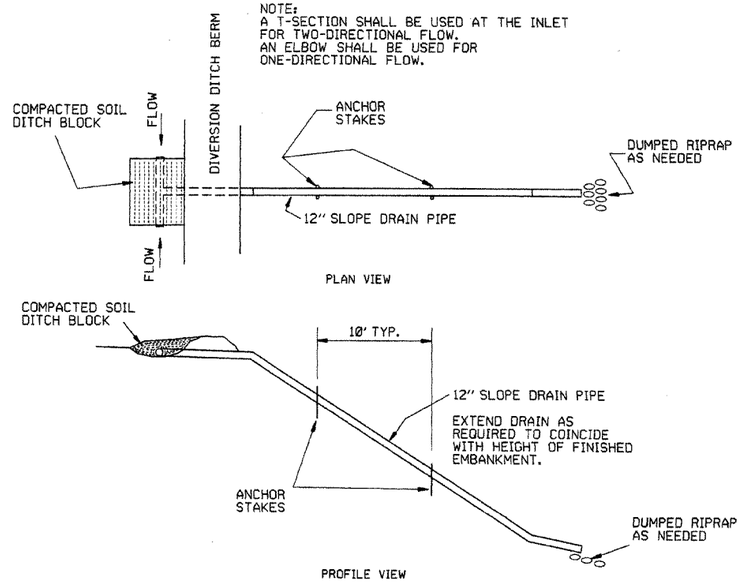
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



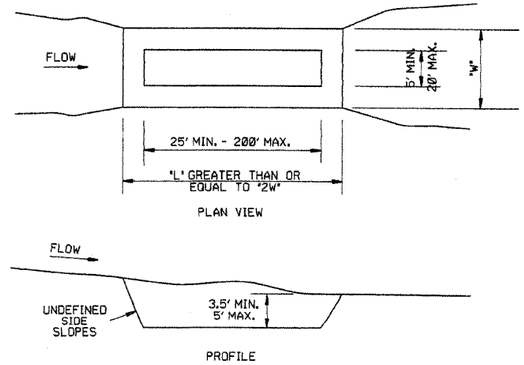
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

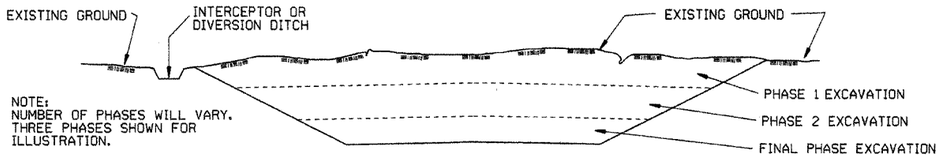
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



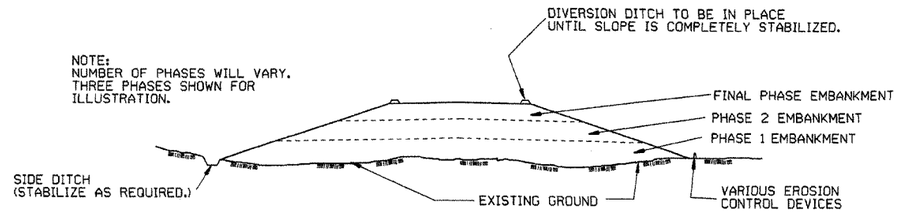
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

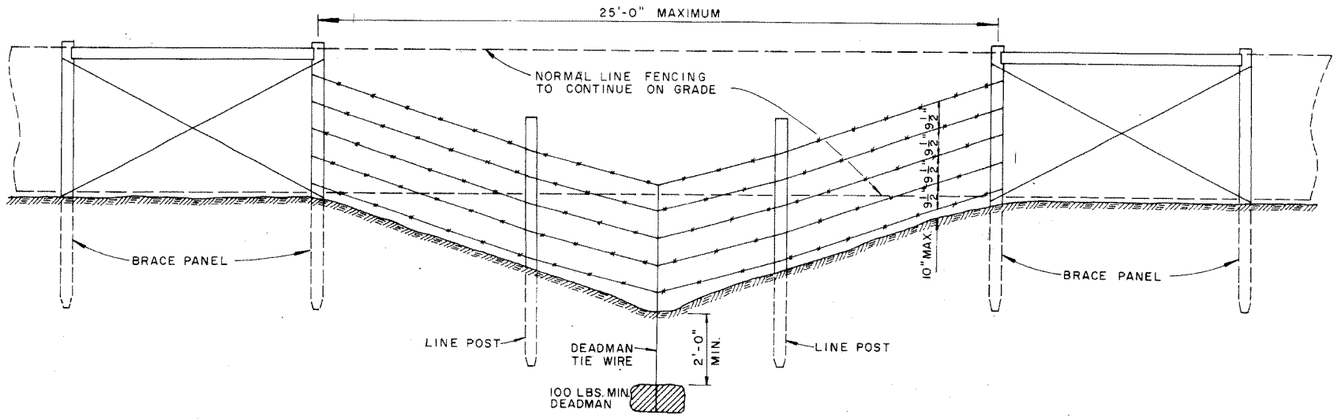
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

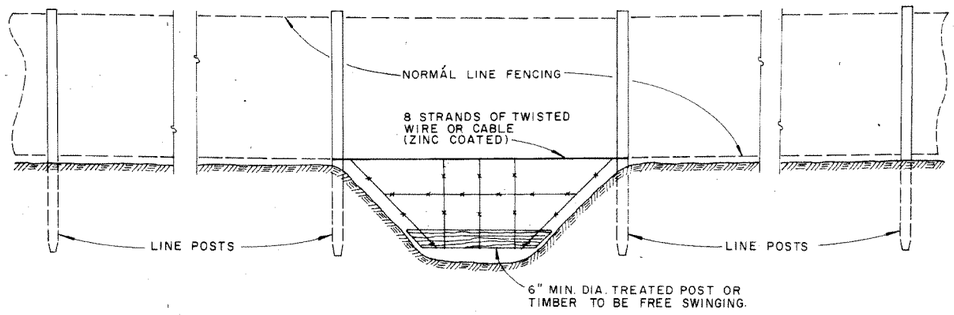
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

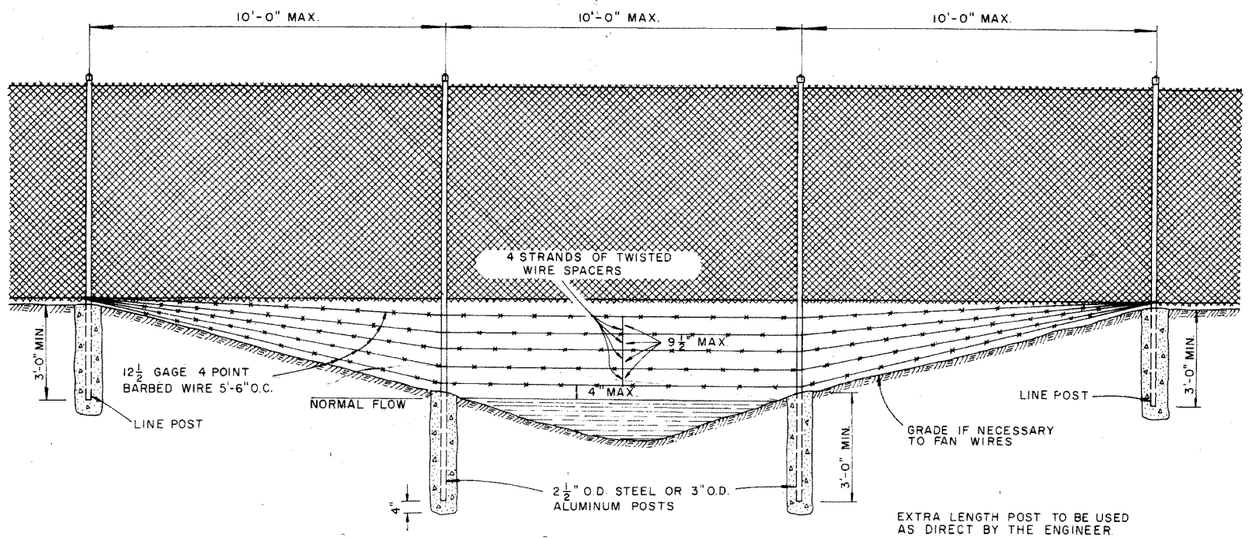
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

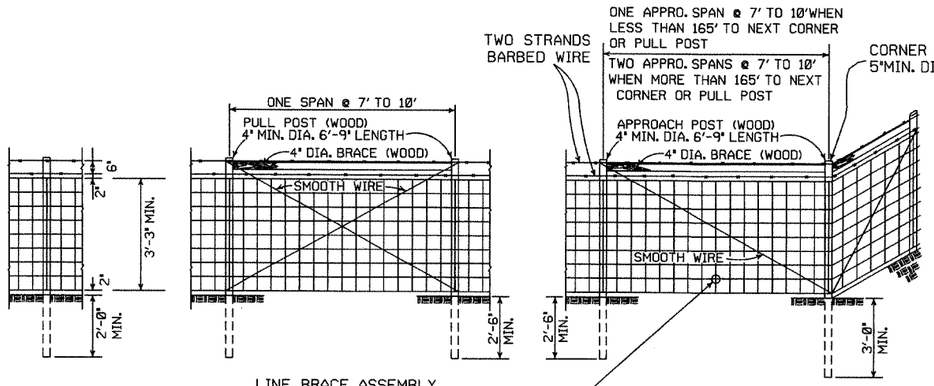
4-20-79	REVISED TOP RAIL & TENSION WIRE	696 4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72
DATE	REVISION	DATE FILM'D.

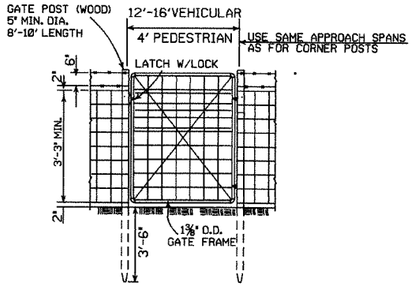
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2

1M—11-71—47001—PPASCo





GENERAL NOTES:

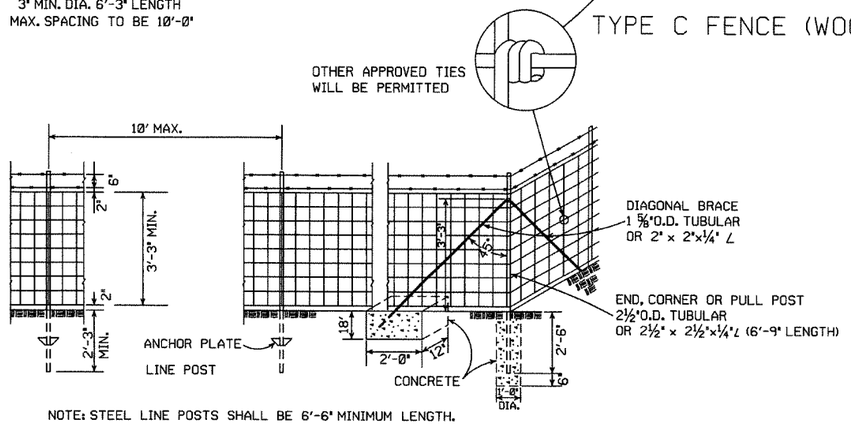
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

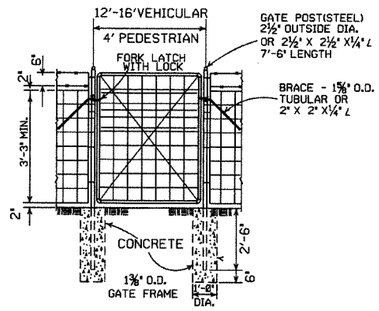
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

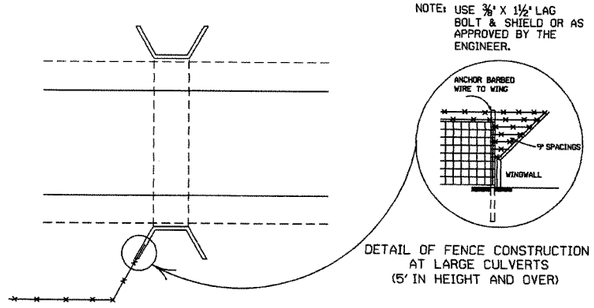
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

TYPE C FENCE (WOOD POSTS)







DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

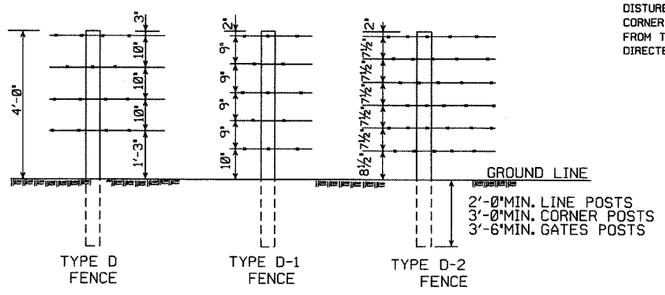
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

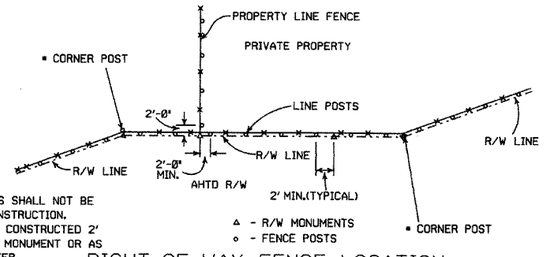
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

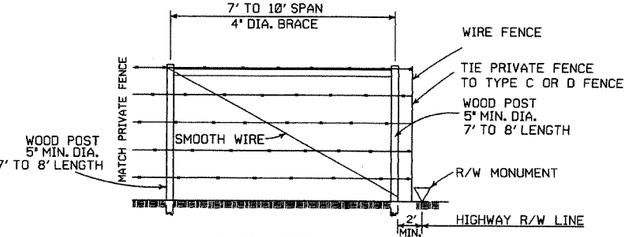


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.

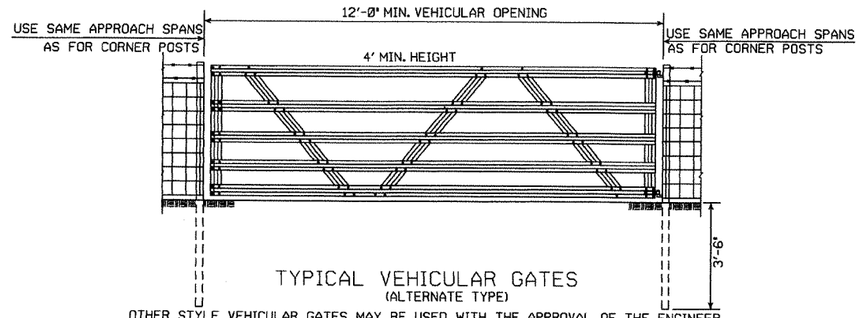


▪ NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION
WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)
OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

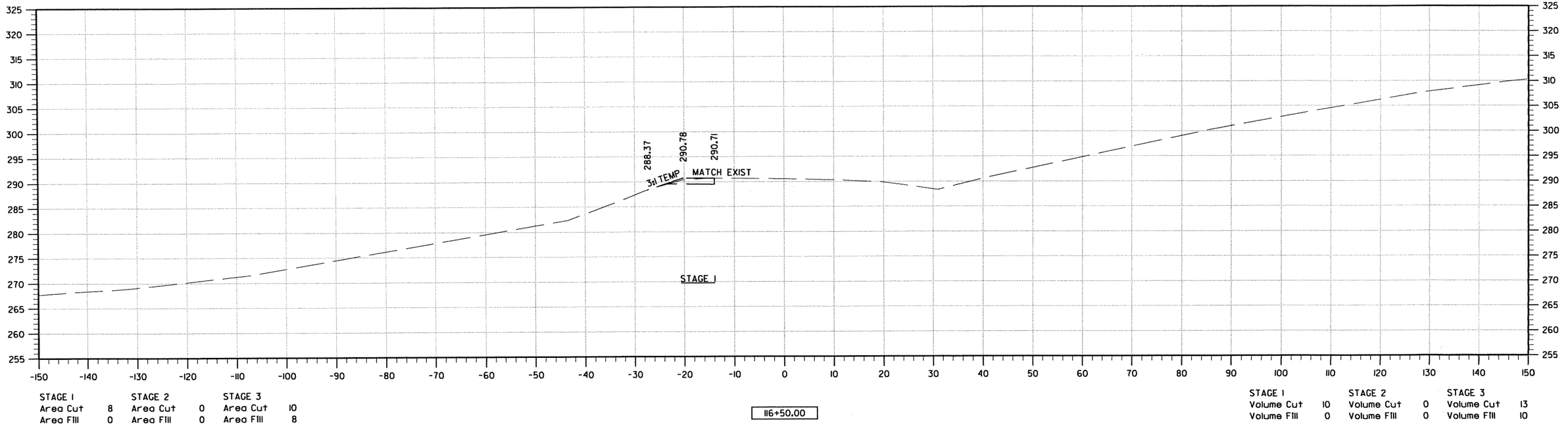
WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	181	252

(2) CROSS SECTIONS US 63

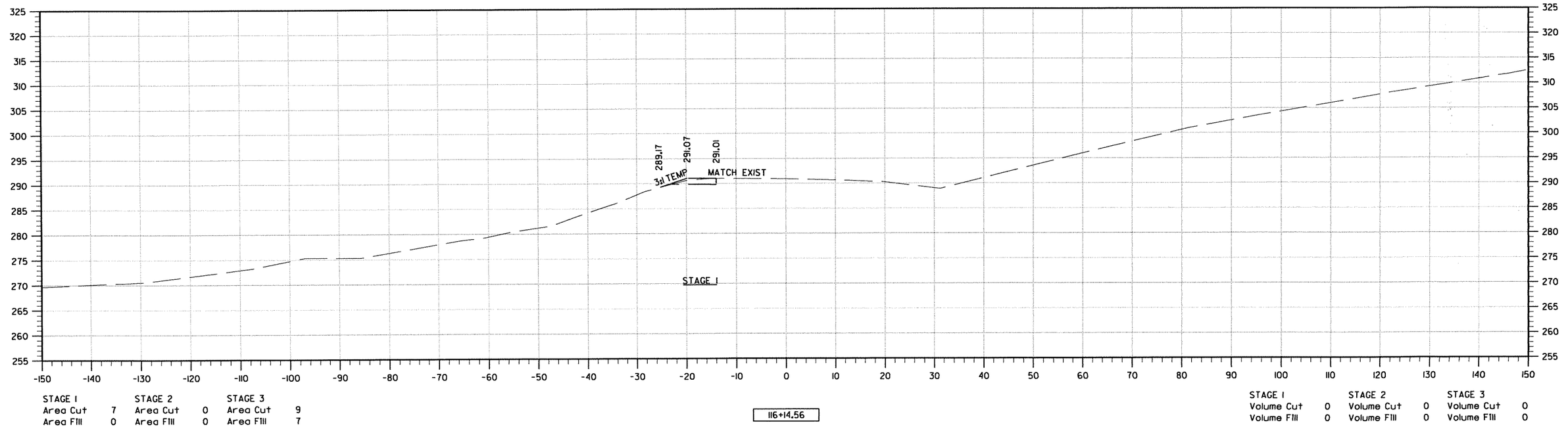
8/27/2012 12:00:21 PM



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	0	Area Cut	10
Area Fill	0	Area Fill	0	Area Fill	8

116+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	10	Volume Cut	0	Volume Cut	13
Volume Fill	0	Volume Fill	0	Volume Fill	10



STAGE 1		STAGE 2		STAGE 3	
Area Cut	7	Area Cut	0	Area Cut	9
Area Fill	0	Area Fill	0	Area Fill	7

116+14.56

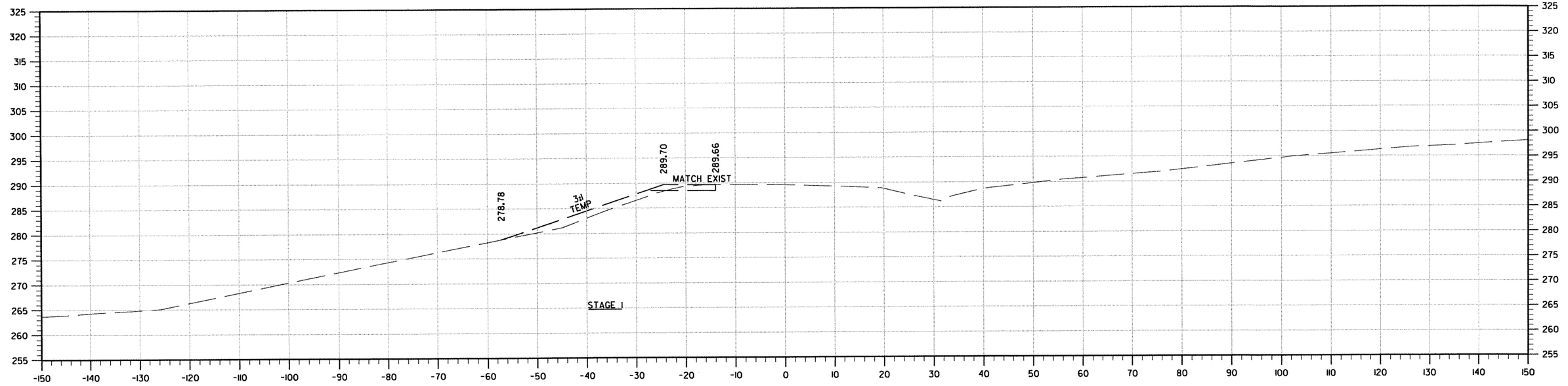
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 116+14.56 TO STA. 116+50.00

S:\14404\01\DGN\Plans\XS\14404_XS_Sheet.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	182	252

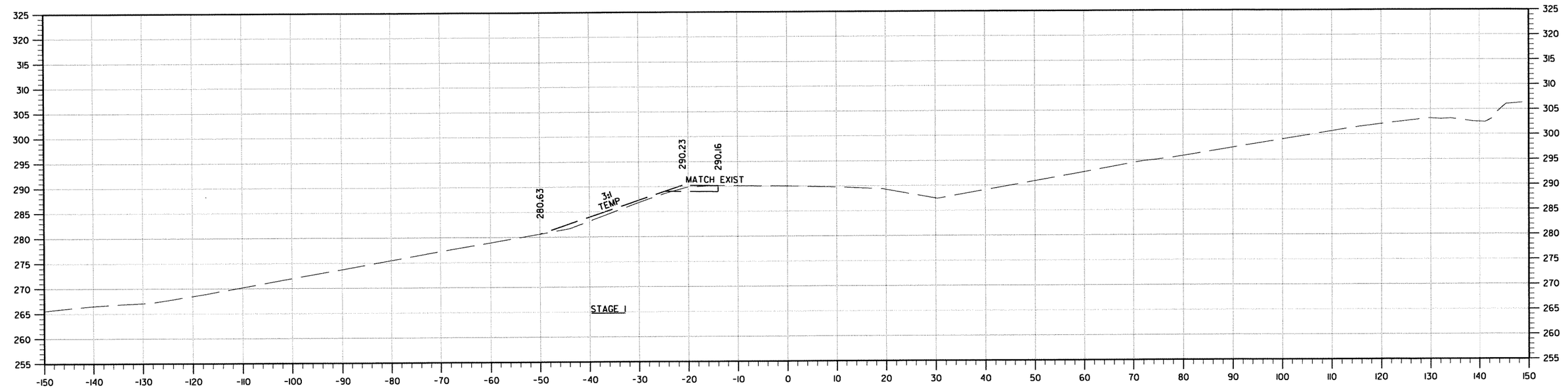
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	0	Area Cut	51
Area Fill	36	Area Fill	0	Area Fill	8

117+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	15	Volume Cut	0	Volume Cut	72
Volume Fill	48	Volume Fill	0	Volume Fill	15



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	0	Area Cut	26
Area Fill	16	Area Fill	0	Area Fill	8

117+00.00

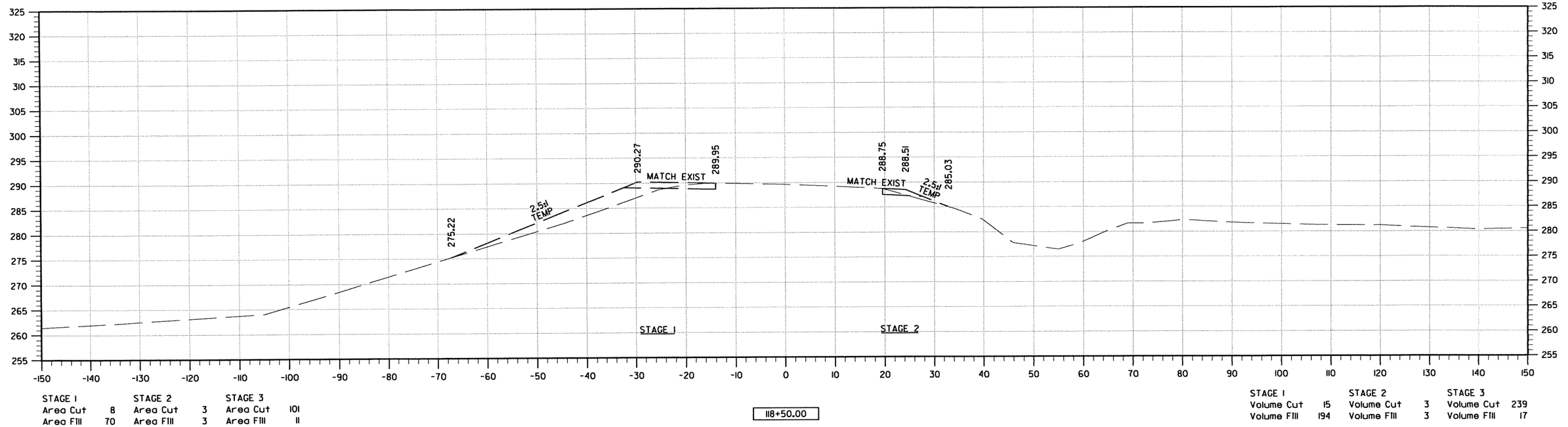
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	14	Volume Cut	0	Volume Cut	34
Volume Fill	15	Volume Fill	0	Volume Fill	14

STA. 117+00.00 TO STA. 117+50.00

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8/27/2012
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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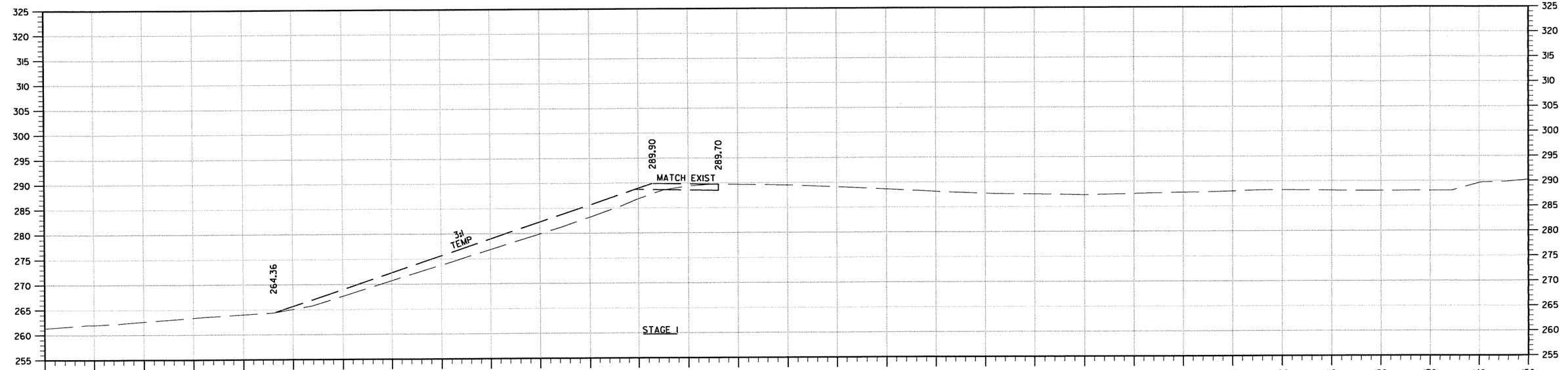
② CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	3	Area Cut	101
Area Fill	70	Area Fill	3	Area Fill	11

118+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	15	Volume Cut	3	Volume Cut	239
Volume Fill	194	Volume Fill	3	Volume Fill	17



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	0	Area Cut	158
Area Fill	140	Area Fill	0	Area Fill	8

118+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	15	Volume Cut	0	Volume Cut	193
Volume Fill	163	Volume Fill	0	Volume Fill	15

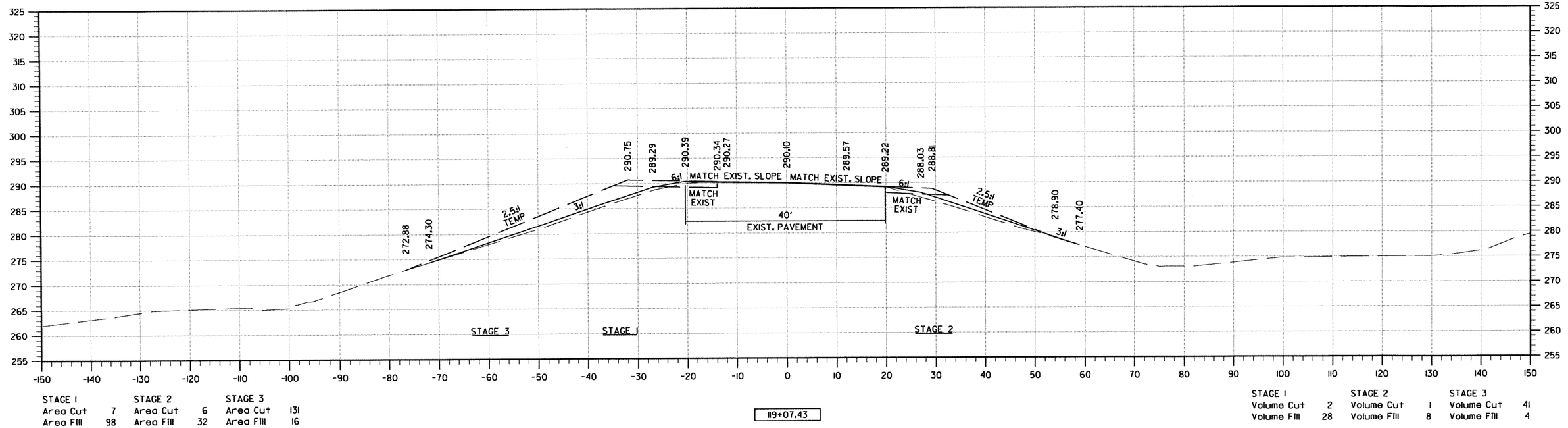
STA. 118+00.00 TO STA. 118+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	184	252

(2) CROSS SECTIONS US 63

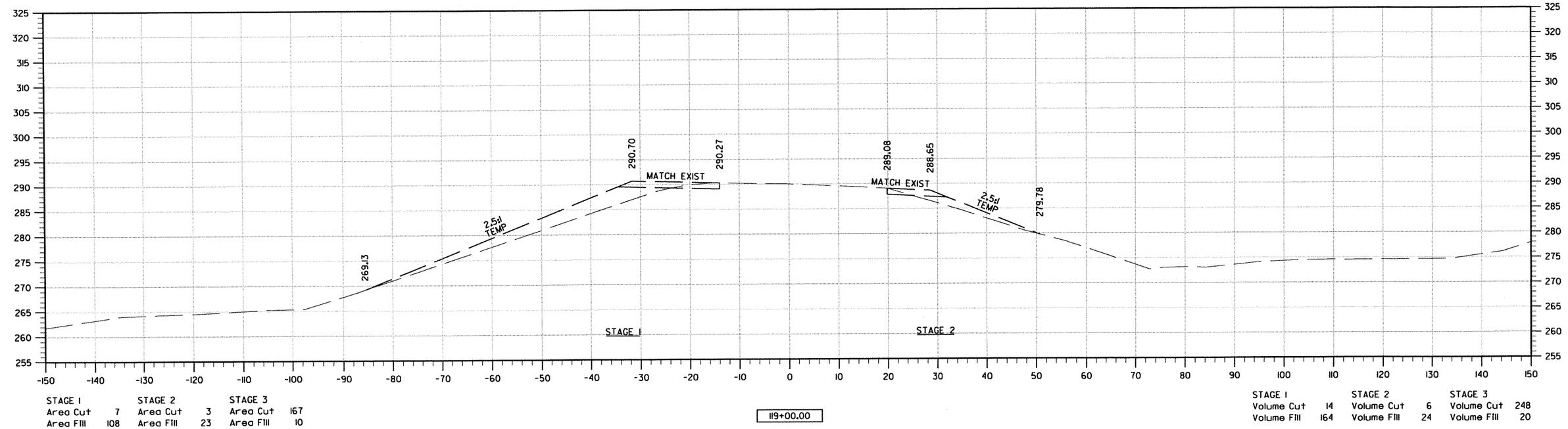
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8/27/2012



STAGE 1		STAGE 2		STAGE 3	
Area Cut	7	Area Cut	6	Area Cut	131
Area Fill	98	Area Fill	32	Area Fill	16

119+07.43

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	2	Volume Cut	1	Volume Cut	41
Volume Fill	28	Volume Fill	8	Volume Fill	4



STAGE 1		STAGE 2		STAGE 3	
Area Cut	7	Area Cut	3	Area Cut	167
Area Fill	108	Area Fill	23	Area Fill	10

119+00.00

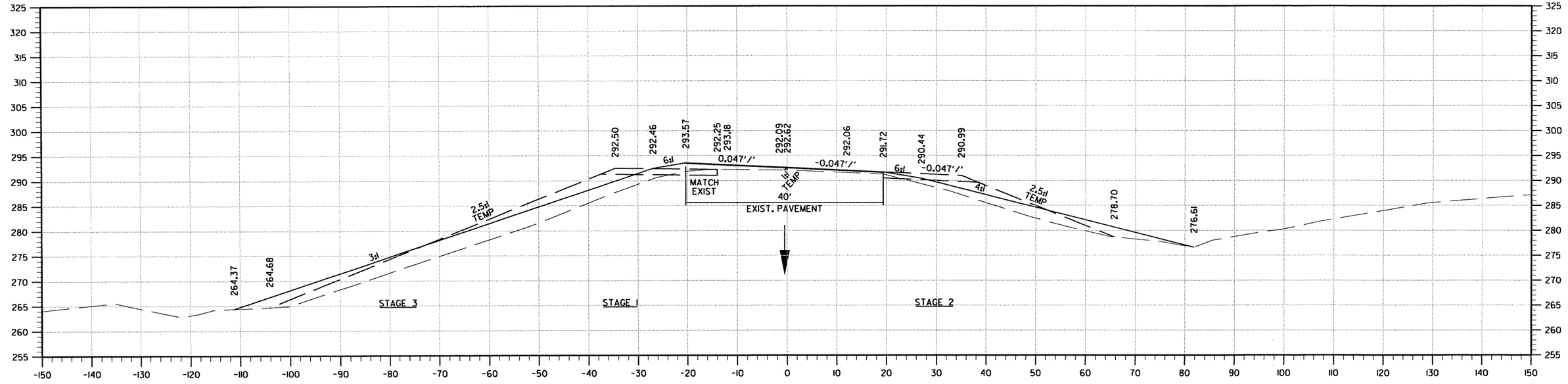
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	14	Volume Cut	6	Volume Cut	248
Volume Fill	164	Volume Fill	24	Volume Fill	20

STA. 119+00.00 TO STA. 119+07.43

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	185	252

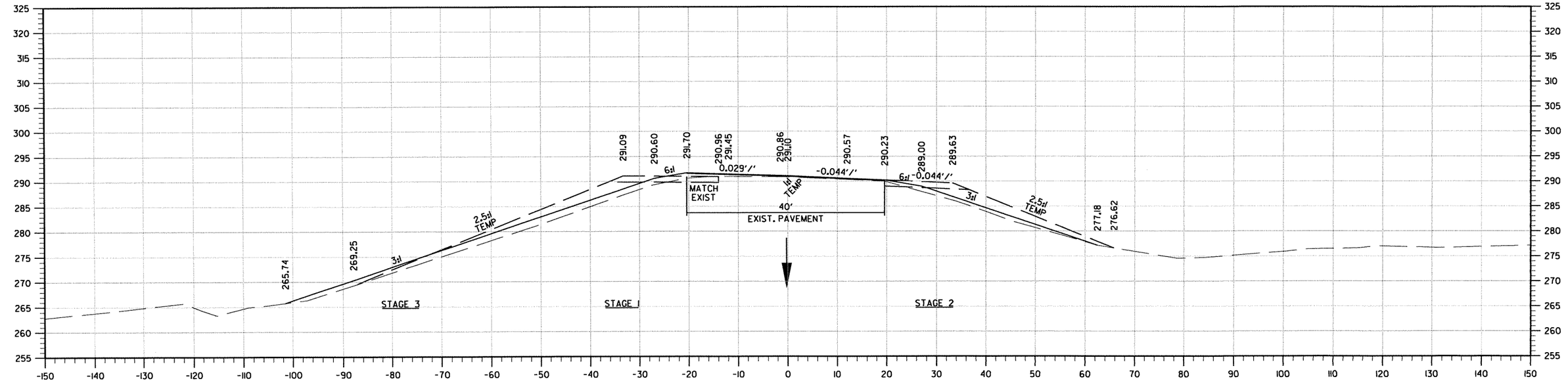
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	1	Area Cut	123
Area Fill	248	Area Fill	83	Area Fill	94

120+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	15	Volume Cut	3	Volume Cut	253
Volume Fill	342	Volume Fill	149	Volume Fill	126



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	2	Area Cut	150
Area Fill	122	Area Fill	77	Area Fill	42

119+50.00

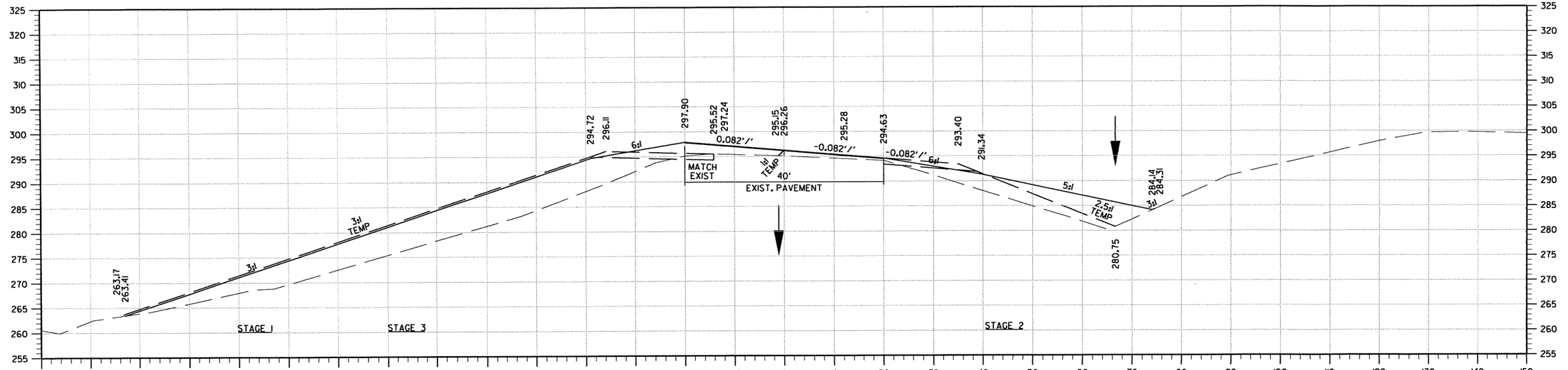
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	12	Volume Cut	6	Volume Cut	221
Volume Fill	174	Volume Fill	86	Volume Fill	45

STA. 119+50.00 TO STA. 120+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	186	252

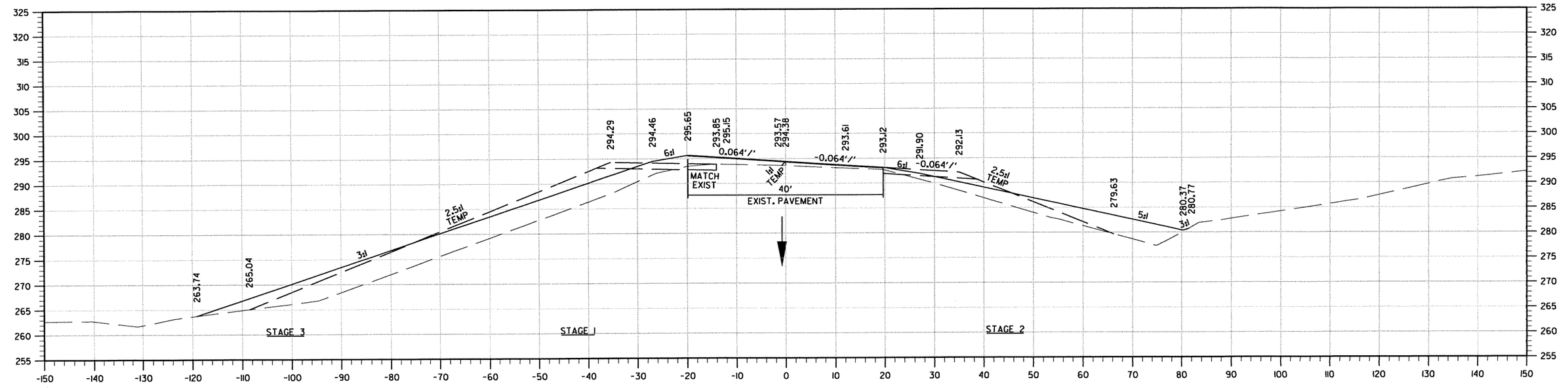
(2) CROSS SECTIONS US 63



121+00.00

STAGE 1		STAGE 2		STAGE 3	
Area Cut	7	Area Cut	1	Area Cut	83
Area Fill	528	Area Fill	88	Area Fill	126

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	12	Volume Cut	3	Volume Cut	181
Volume Fill	819	Volume Fill	149	Volume Fill	271



120+50.00

STAGE 1		STAGE 2		STAGE 3	
Area Cut	7	Area Cut	2	Area Cut	113
Area Fill	356	Area Fill	73	Area Fill	166

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	13	Volume Cut	3	Volume Cut	219
Volume Fill	559	Volume Fill	144	Volume Fill	241

STA. 120+50.00 TO STA. 121+00.00

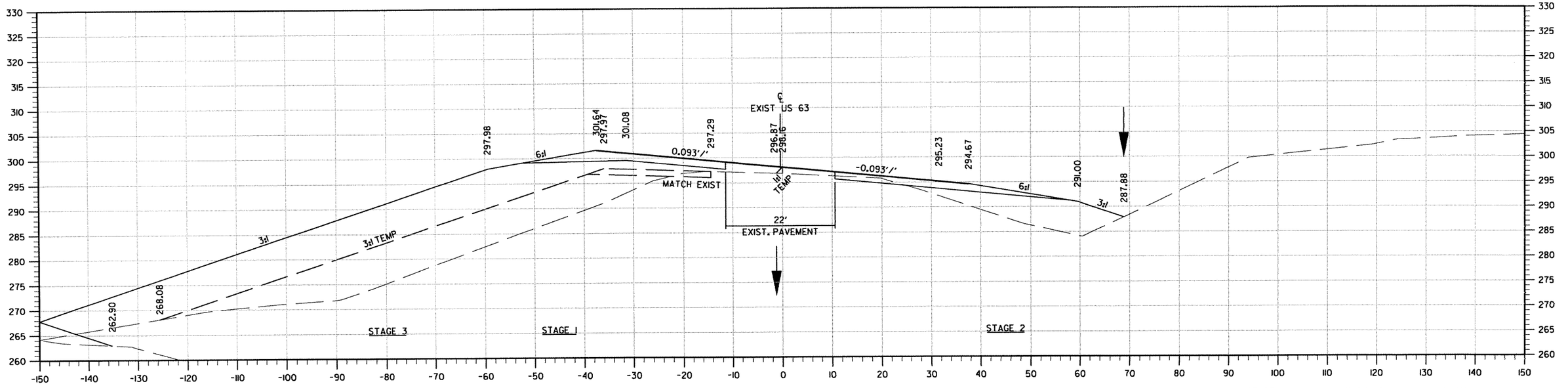
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				JOB NO.		100687	187	252

(2) CROSS SECTIONS US 63

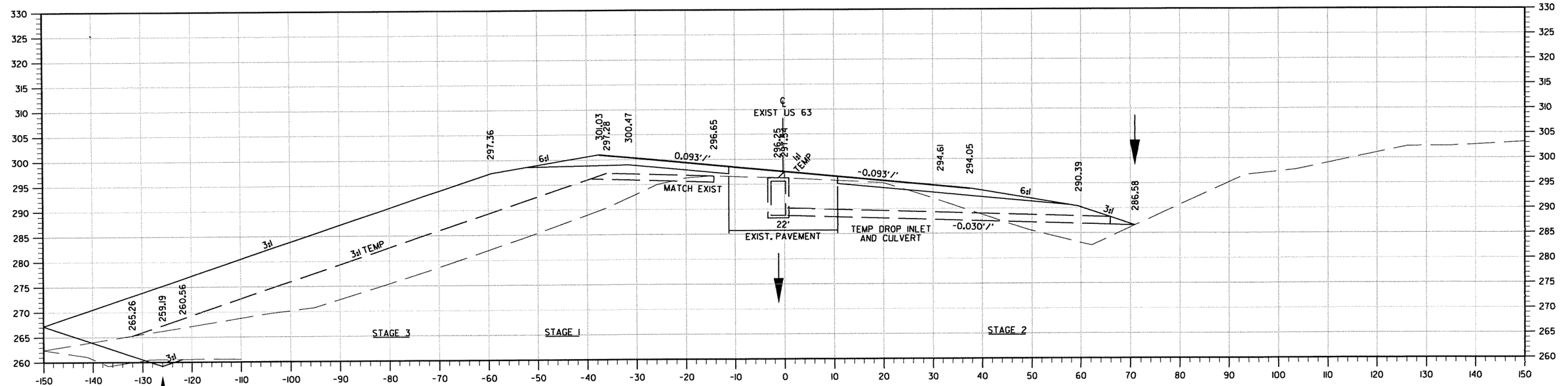
8/21/2012 12:00:24 PM



STAGE 1		STAGE 2		STAGE 3	
Area Cut	6	Area Cut	10	Area Cut	29
Area Fill	581	Area Fill	167	Area Fill	865

121+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	4	Volume Cut	6	Volume Cut	21
Volume Fill	377	Volume Fill	115	Volume Fill	584



STAGE 1		STAGE 2		STAGE 3	
Area Cut	6	Area Cut	10	Area Cut	34
Area Fill	579	Area Fill	187	Area Fill	930

121+32.43

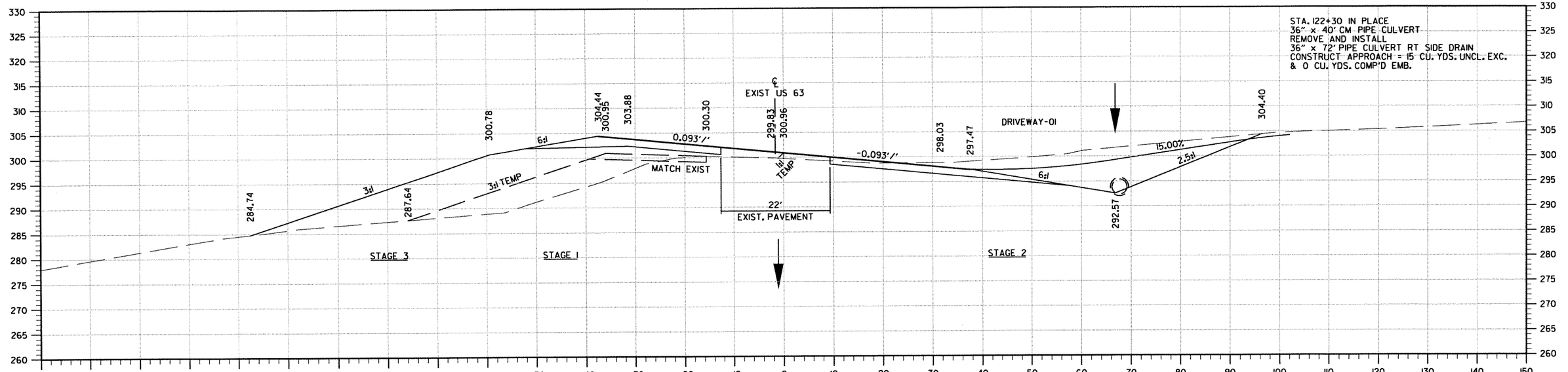
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	8	Volume Cut	7	Volume Cut	70
Volume Fill	665	Volume Fill	165	Volume Fill	634

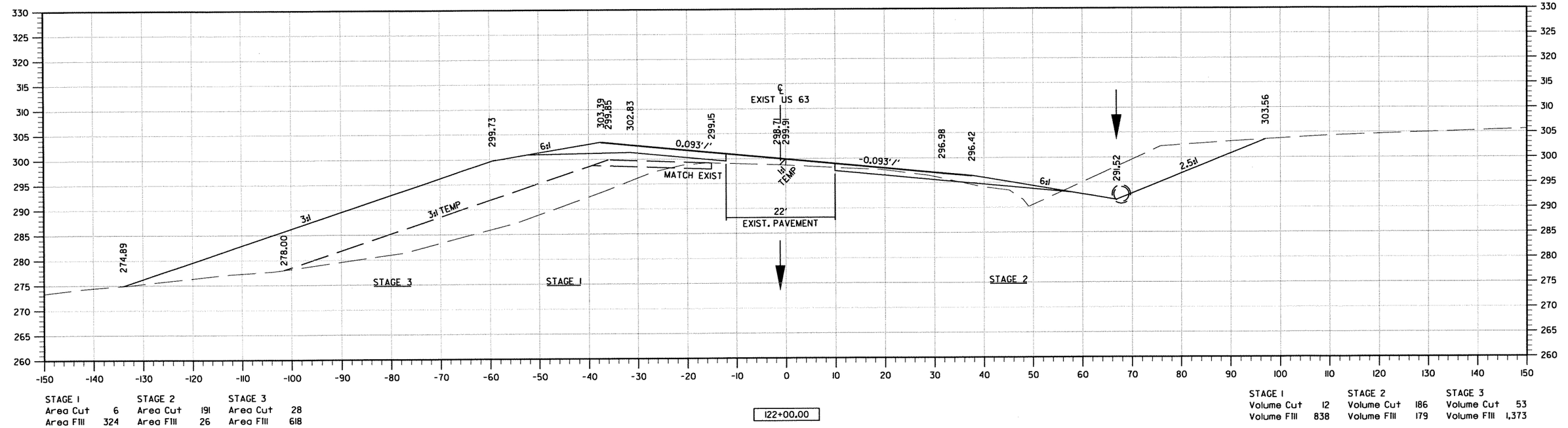
STA. 121+32.43 TO STA. 121+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	188	252

(2) CROSS SECTIONS US 63





STA. 122+00.00 TO STA. 122+30.00

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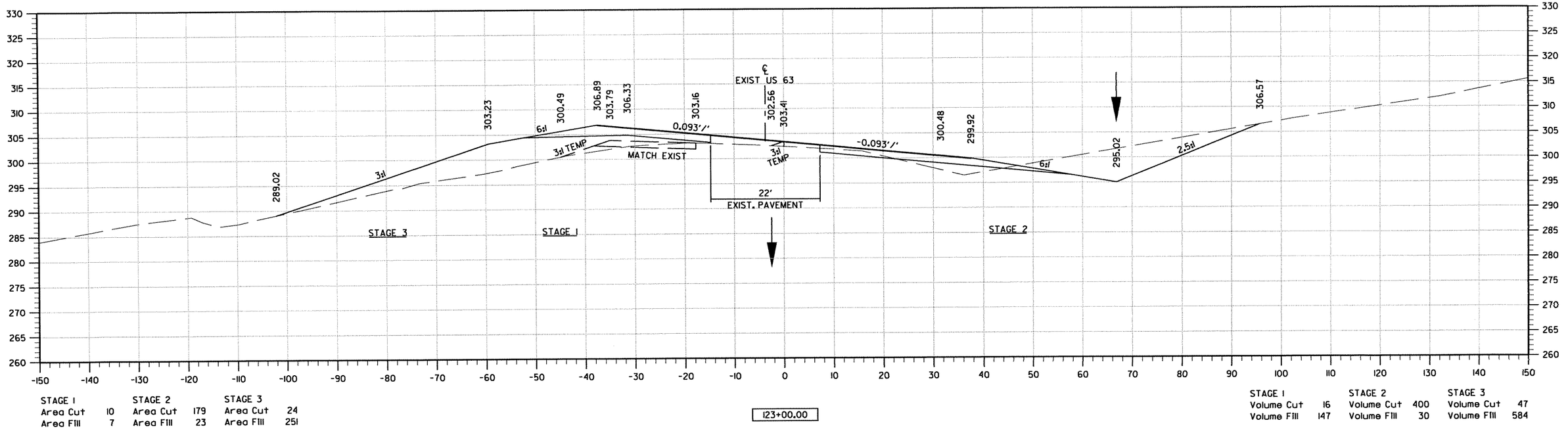
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	189	252

(2) **CROSS SECTIONS US 63**

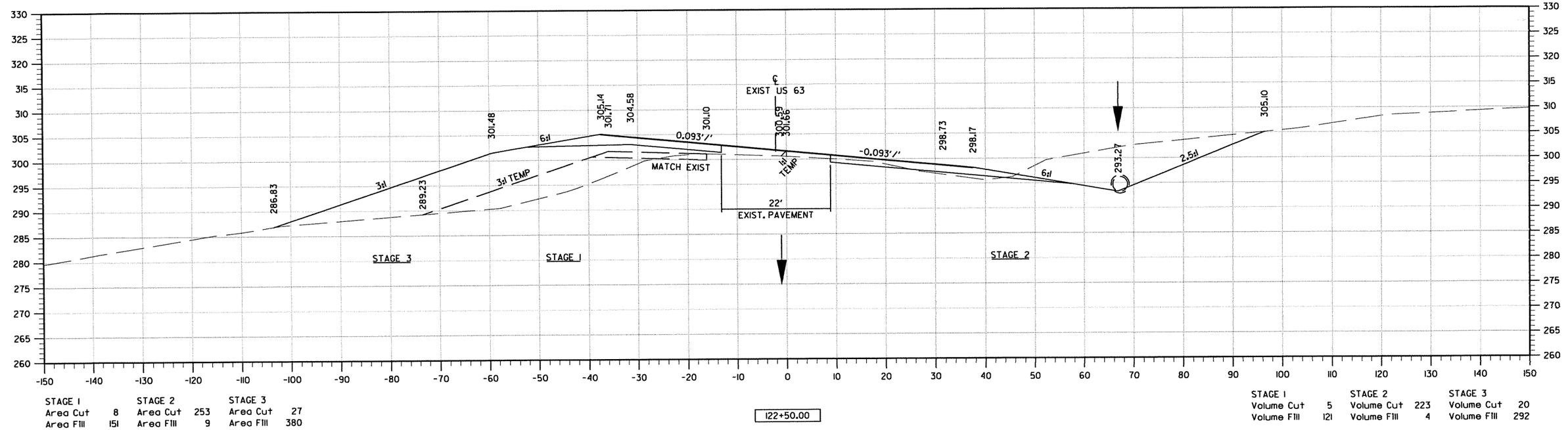
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	10	Area Cut	179	Area Cut	24
Area Fill	7	Area Fill	23	Area Fill	251

123+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	16	Volume Cut	400	Volume Cut	47
Volume Fill	147	Volume Fill	30	Volume Fill	584



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	253	Area Cut	27
Area Fill	151	Area Fill	9	Area Fill	380

122+50.00

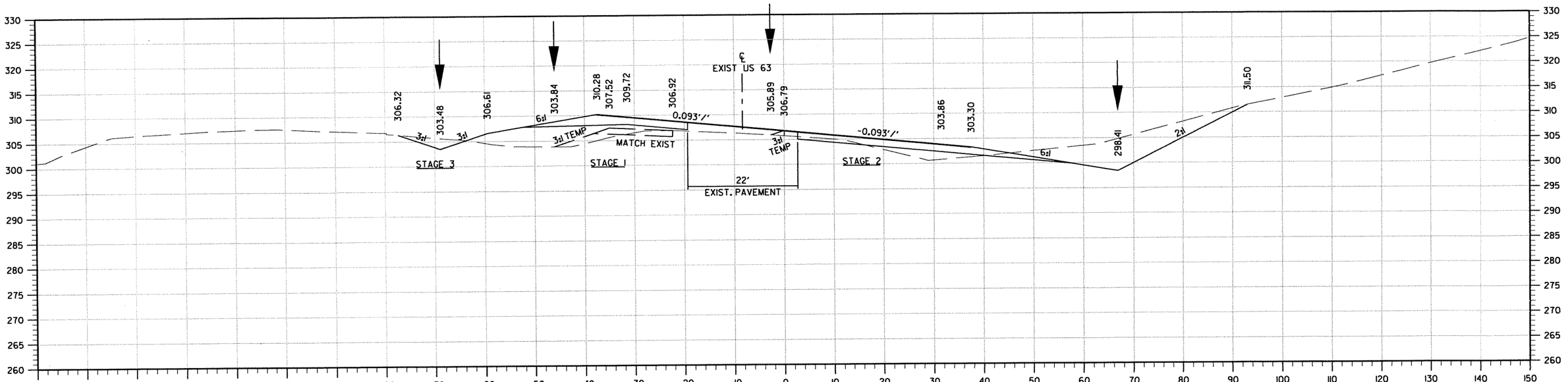
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	5	Volume Cut	223	Volume Cut	20
Volume Fill	121	Volume Fill	4	Volume Fill	292

STA. 122+50.00 TO STA. 123+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	190	252

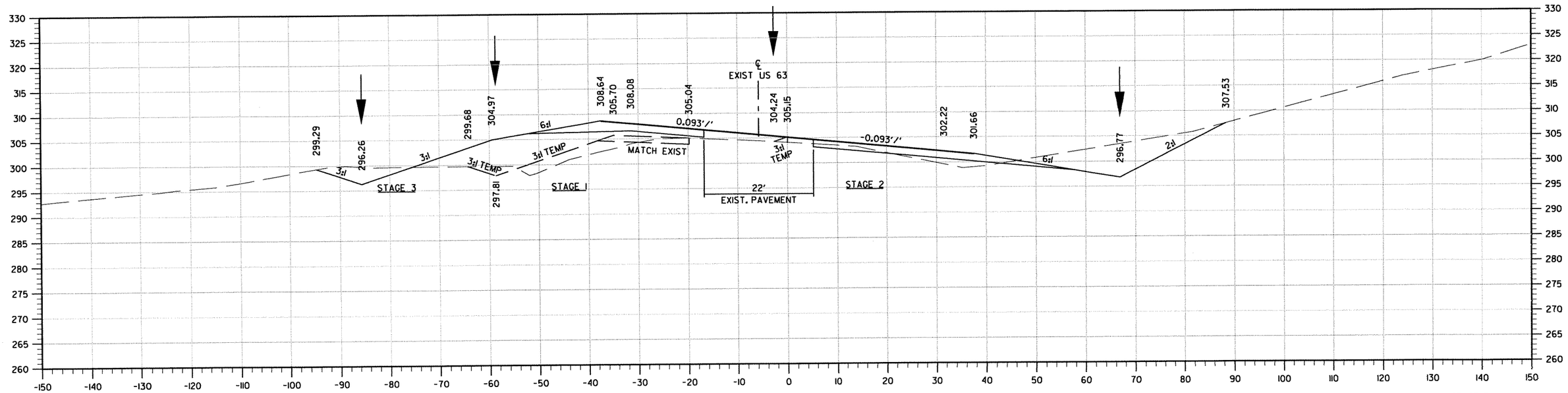
② CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	8	Area Cut	164	Area Cut	33
Area Fill	13	Area Fill	25	Area Fill	105

124+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	24	Volume Cut	291	Volume Cut	83
Volume Fill	50	Volume Fill	41	Volume Fill	272



STAGE 1		STAGE 2		STAGE 3	
Area Cut	18	Area Cut	151	Area Cut	56
Area Fill	41	Area Fill	19	Area Fill	189

123+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	26	Volume Cut	305	Volume Cut	74
Volume Fill	45	Volume Fill	39	Volume Fill	407

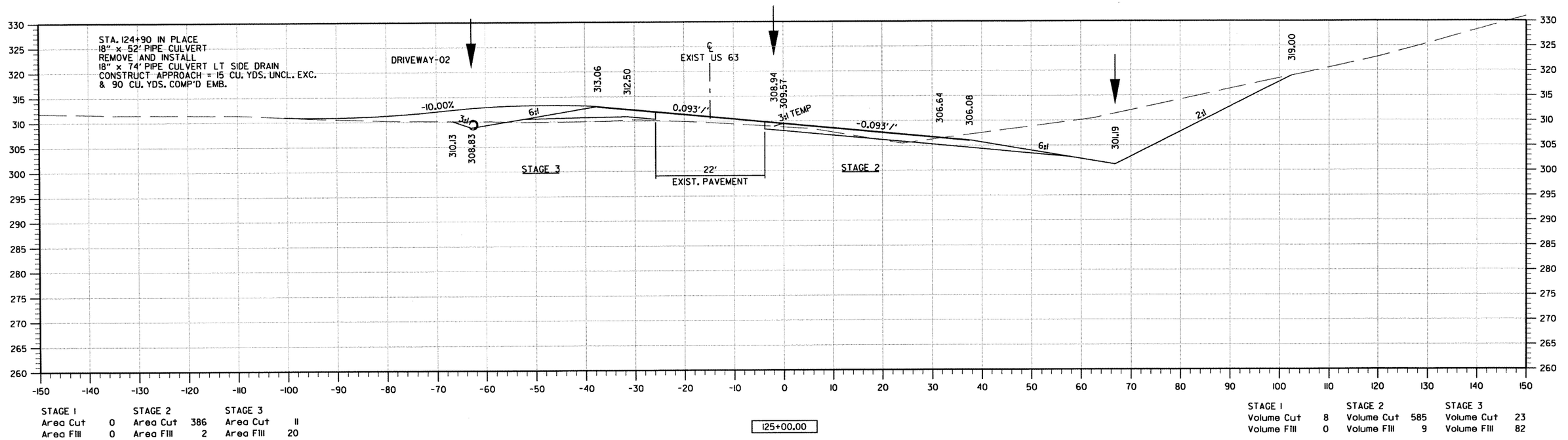
STA. 123+50.00 TO STA. 124+00.00

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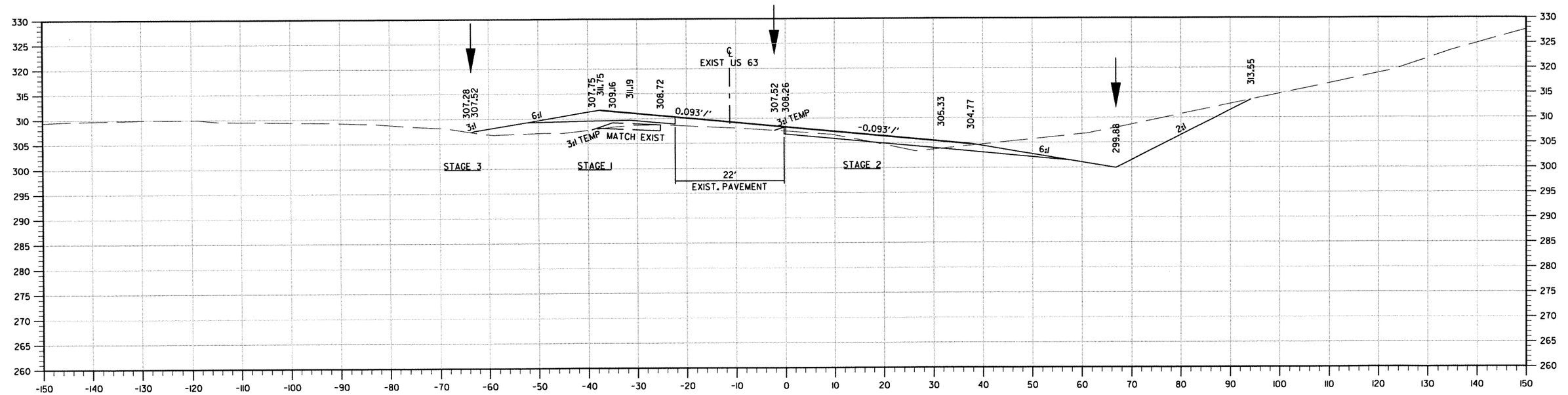
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	191	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	386	Area Cut	11
Area Fill	0	Area Fill	2	Area Fill	20

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	8	Volume Cut	585	Volume Cut	23
Volume Fill	0	Volume Fill	9	Volume Fill	82



STAGE 1		STAGE 2		STAGE 3	
Area Cut	9	Area Cut	245	Area Cut	15
Area Fill	0	Area Fill	8	Area Fill	69

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	15	Volume Cut	379	Volume Cut	44
Volume Fill	12	Volume Fill	31	Volume Fill	161

STA. 124+50.00 TO STA. 125+00.00

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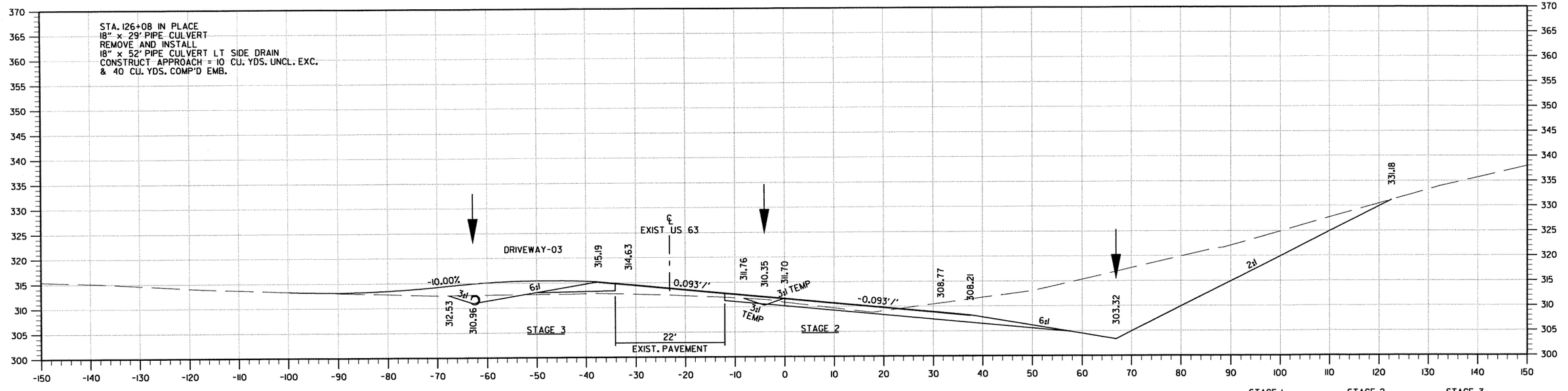
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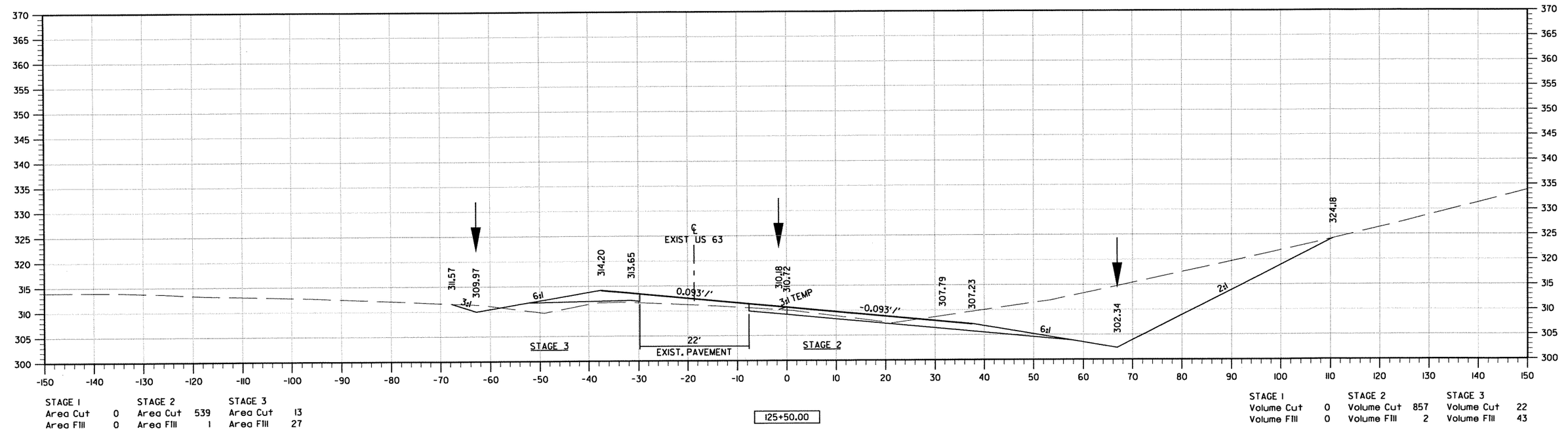
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS US 63

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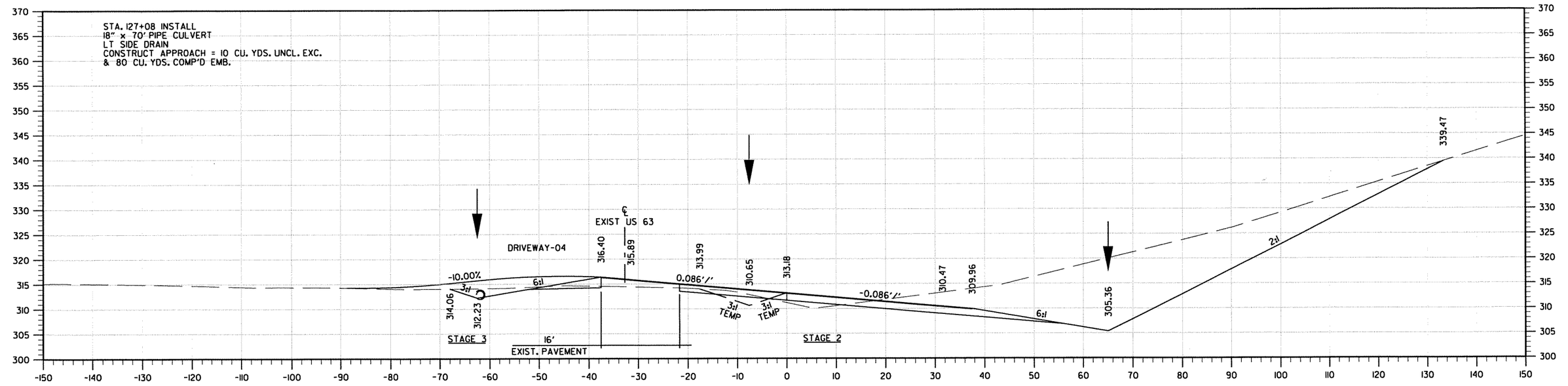
8/27/2012





STA. 125+50.00 TO STA. 126+00.00

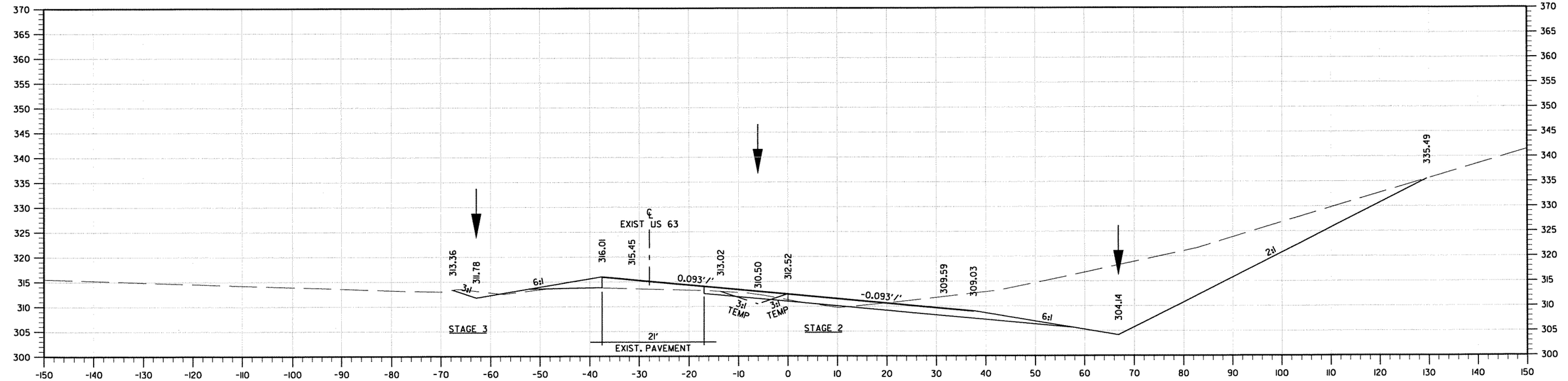
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	822	Area Cut	30
Area Fill	0	Area Fill	11	Area Fill	9

127+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1,461	Volume Cut	40
Volume Fill	0	Volume Fill	13	Volume Fill	14



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	755	Area Cut	13
Area Fill	0	Area Fill	3	Area Fill	7

126+50.00

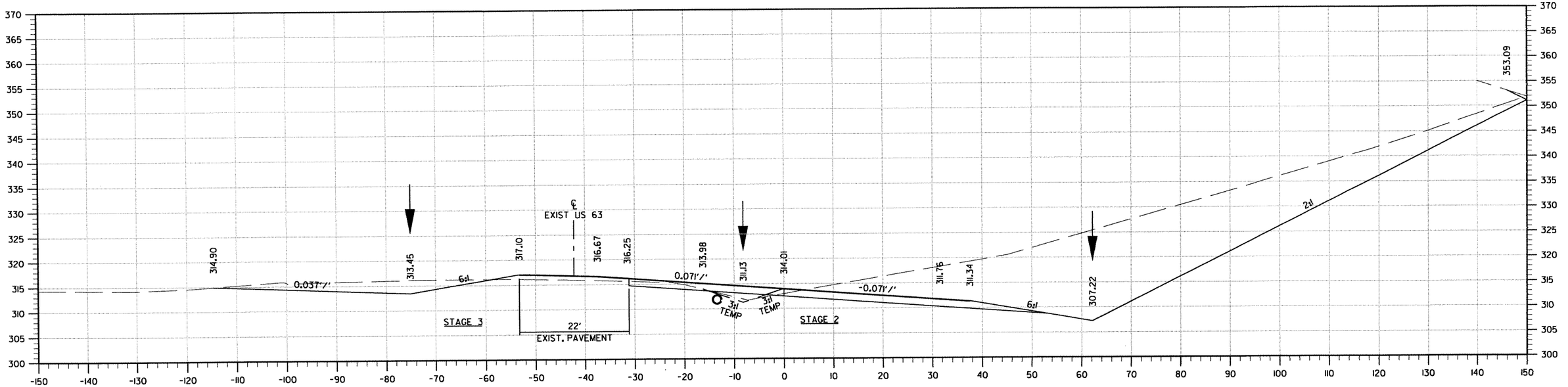
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1,321	Volume Cut	30
Volume Fill	0	Volume Fill	3	Volume Fill	13

STA. 126+50.00 TO STA. 127+00.00

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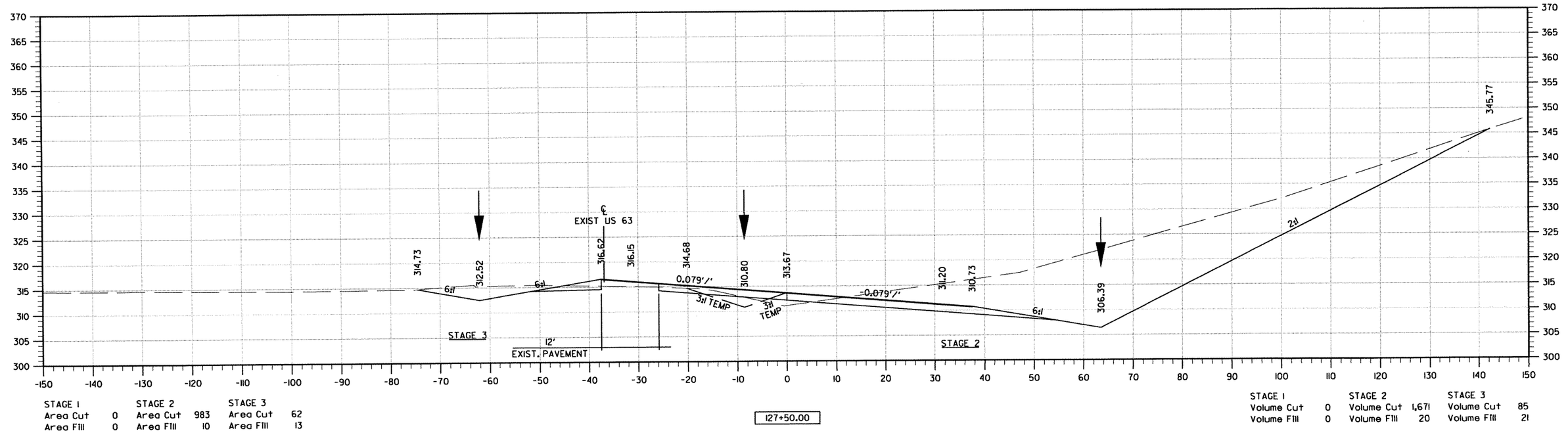
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	1,306	Area Cut	98
Area Fill	0	Area Fill	3	Area Fill	10

128+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2,119	Volume Cut	148
Volume Fill	0	Volume Fill	12	Volume Fill	22



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	983	Area Cut	62
Area Fill	0	Area Fill	10	Area Fill	13

127+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1,671	Volume Cut	85
Volume Fill	0	Volume Fill	20	Volume Fill	21

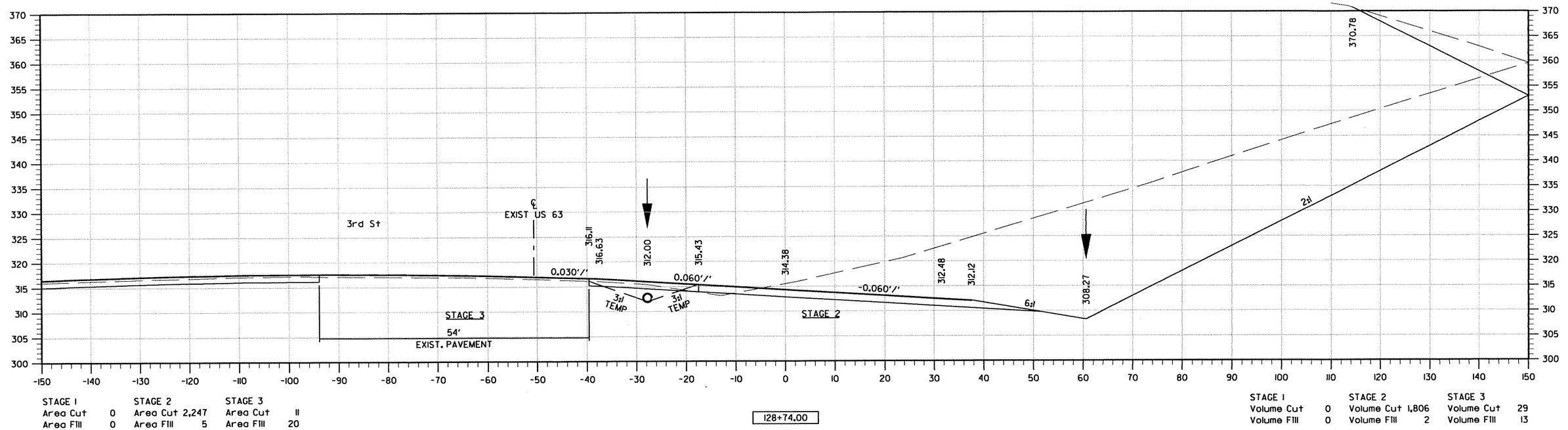
STA. 127+50.00 TO STA. 128+00.00

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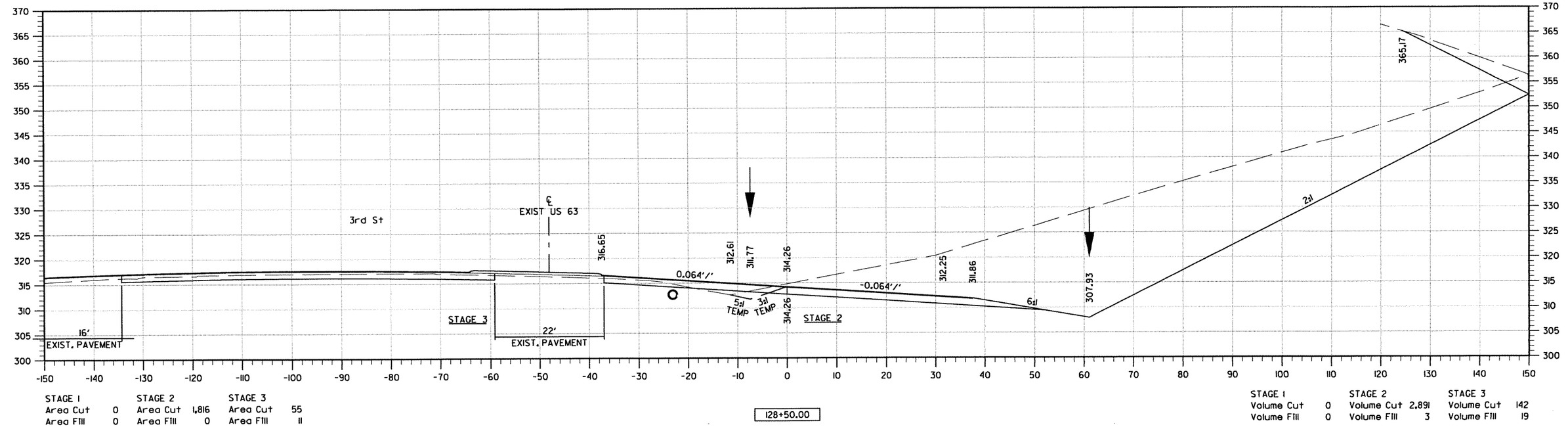
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2,247	Area Cut	11
Area Fill	0	Area Fill	5	Area Fill	20

128+74.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1,806	Volume Cut	29
Volume Fill	0	Volume Fill	2	Volume Fill	13



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	1,816	Area Cut	55
Area Fill	0	Area Fill	0	Area Fill	11

128+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2,891	Volume Cut	142
Volume Fill	0	Volume Fill	3	Volume Fill	19

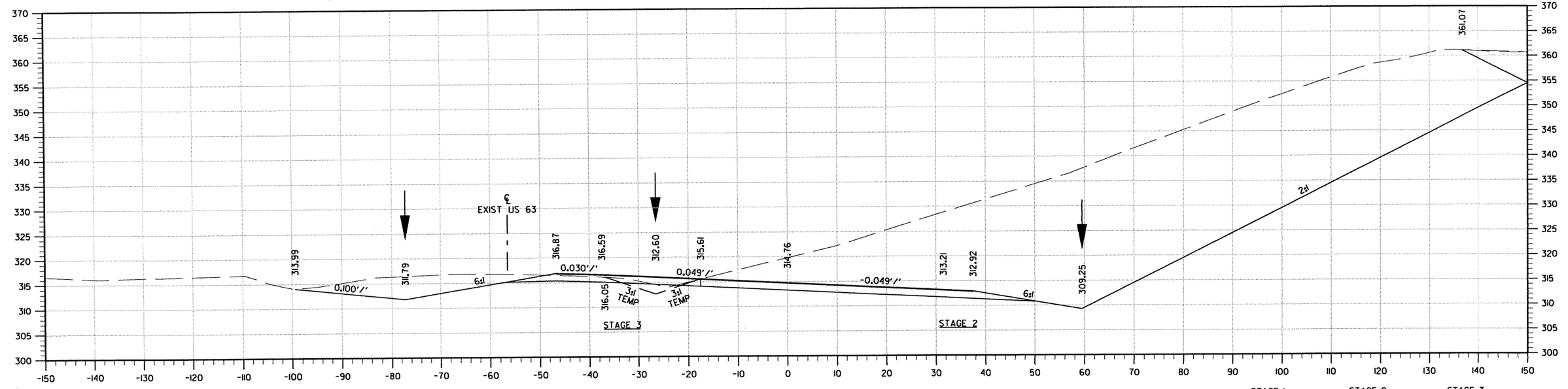
STA. 128+50.00 TO STA. 128+74.00

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				JOB NO.		100687	196	252

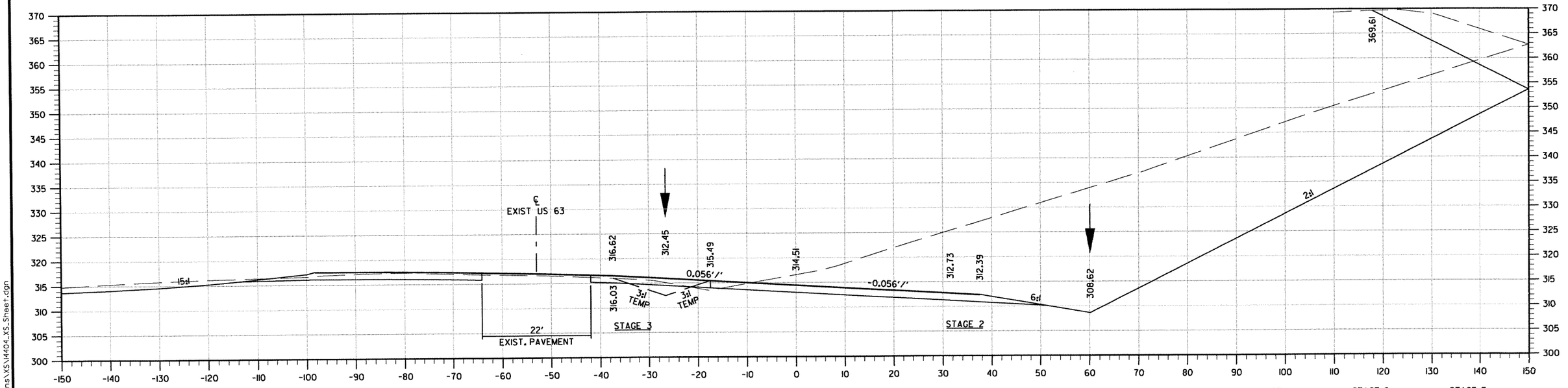
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2,986	Area Cut	149
Area Fill	0	Area Fill	0	Area Fill	12

129+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	5,190	Volume Cut	181
Volume Fill	0	Volume Fill	4	Volume Fill	23



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2,619	Area Cut	47
Area Fill	0	Area Fill	5	Area Fill	13

129+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2,343	Volume Cut	28
Volume Fill	0	Volume Fill	4	Volume Fill	16

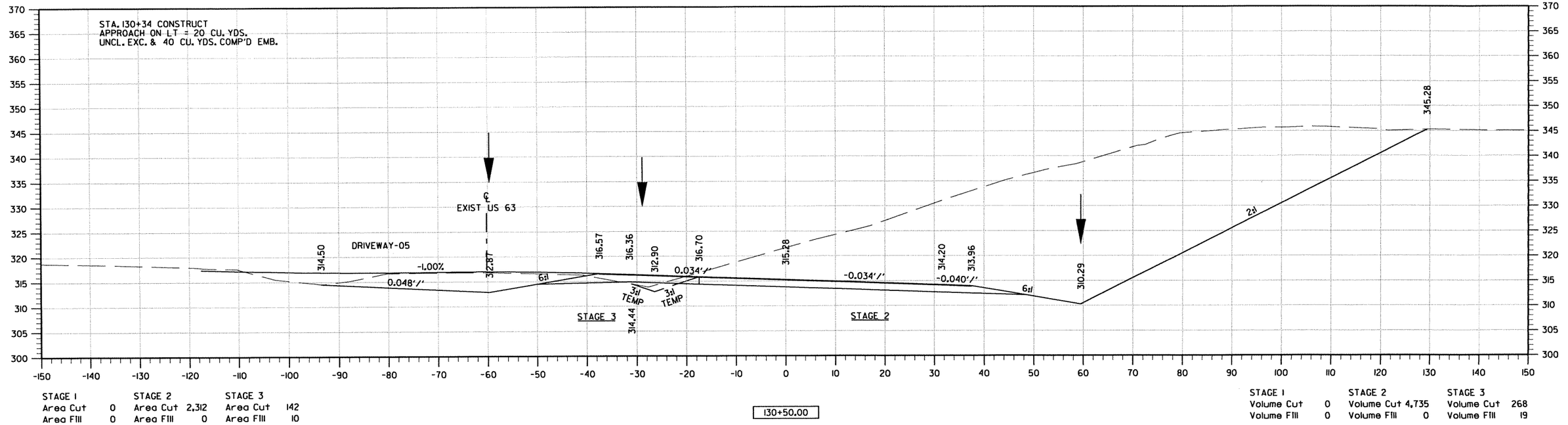
STA. 129+00.00 TO STA. 129+50.00

8/27/2012 12:00:25 PM

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	197	252

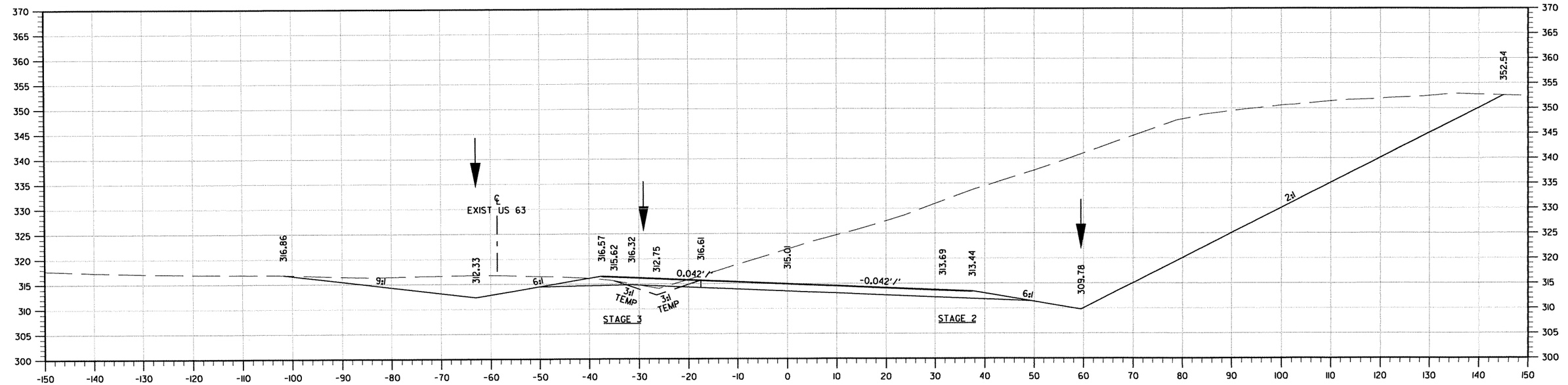
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2,312	Area Cut	142
Area Fill	0	Area Fill	0	Area Fill	10

130+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	4,735	Volume Cut	268
Volume Fill	0	Volume Fill	0	Volume Fill	19



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2,801	Area Cut	148
Area Fill	0	Area Fill	0	Area Fill	10

130+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	5,359	Volume Cut	275
Volume Fill	0	Volume Fill	0	Volume Fill	21

STA. 130+00.00 TO STA. 130+50.00

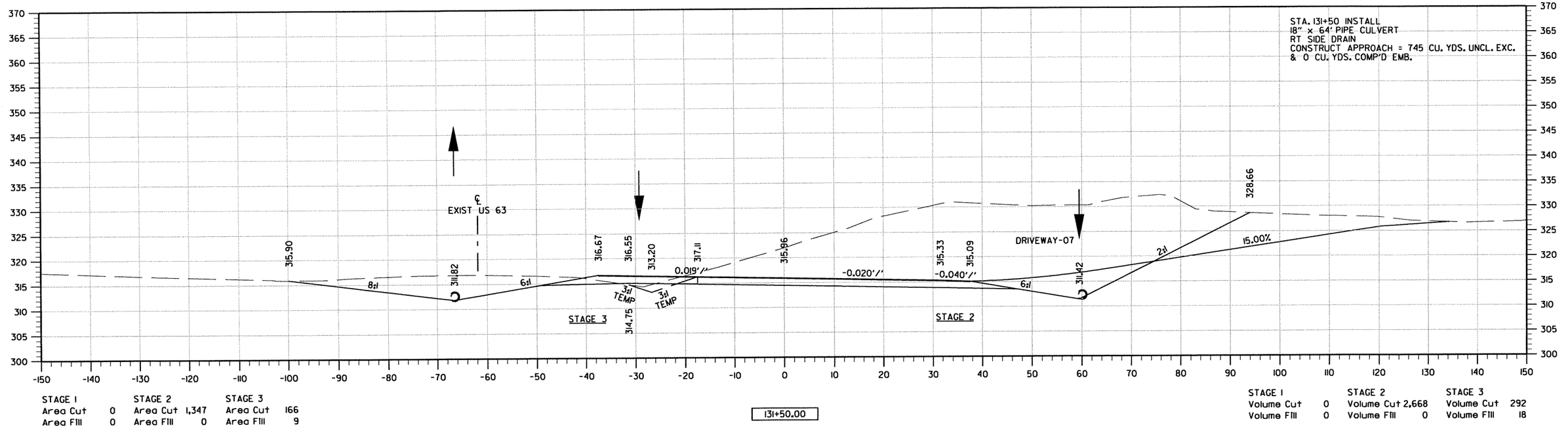
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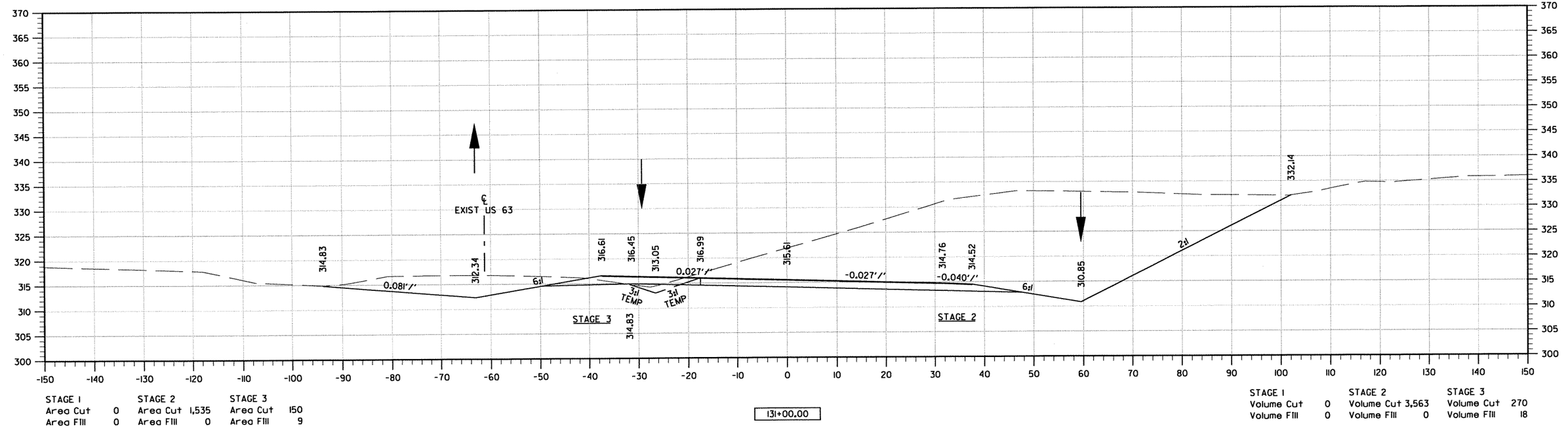
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	198	252

(2) CROSS SECTIONS US 63

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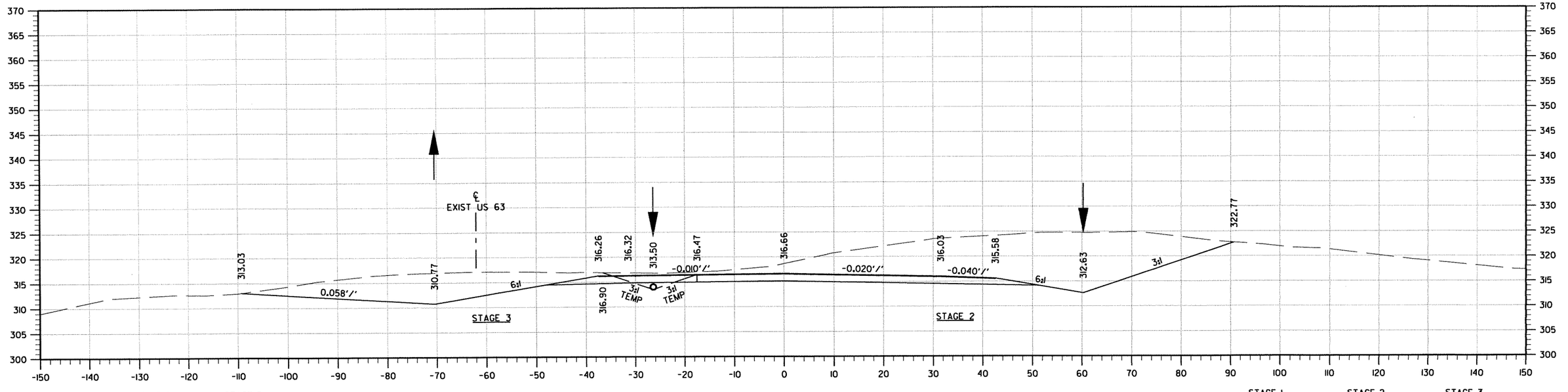


STA. 131+00.00 TO STA. 131+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	199	252

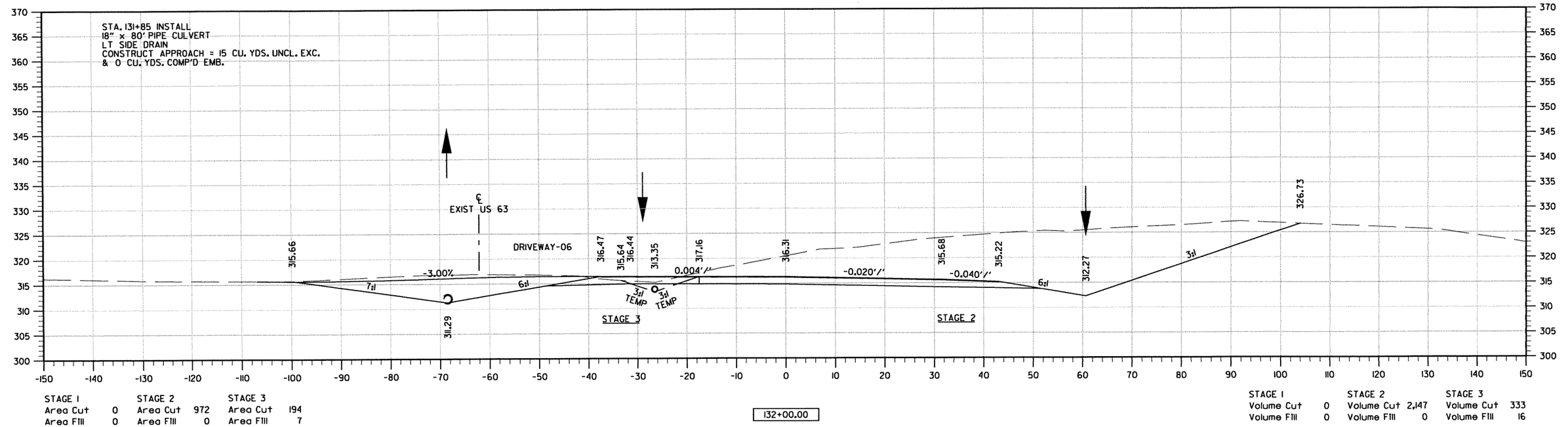
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	778	Area Cut	273
Area Fill	0	Area Fill	0	Area Fill	6

132+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1,620	Volume Cut	433
Volume Fill	0	Volume Fill	0	Volume Fill	12



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	972	Area Cut	194
Area Fill	0	Area Fill	0	Area Fill	7

132+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2,147	Volume Cut	333
Volume Fill	0	Volume Fill	0	Volume Fill	16

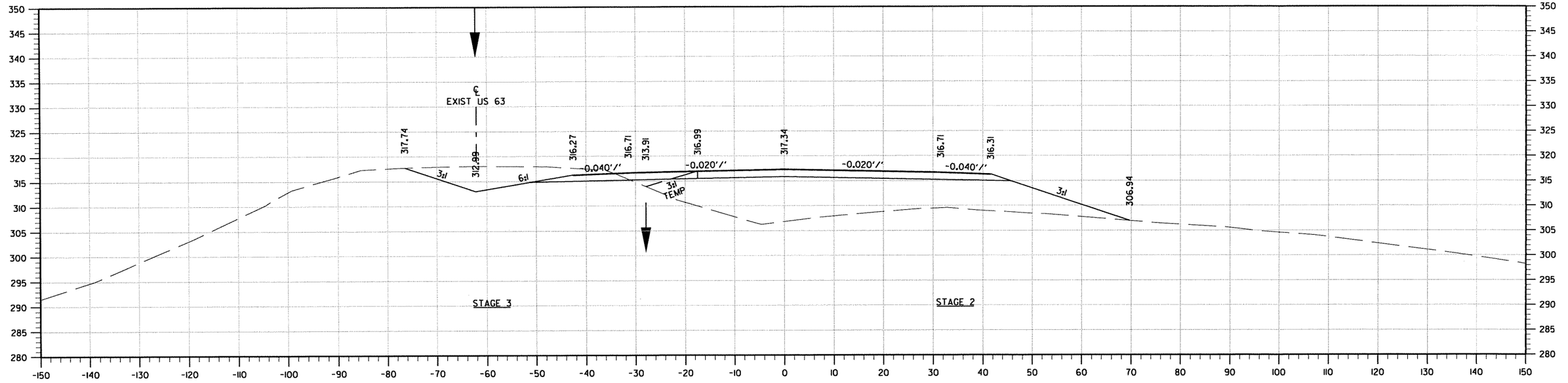
STA. 132+00.00 TO STA. 132+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	200	252

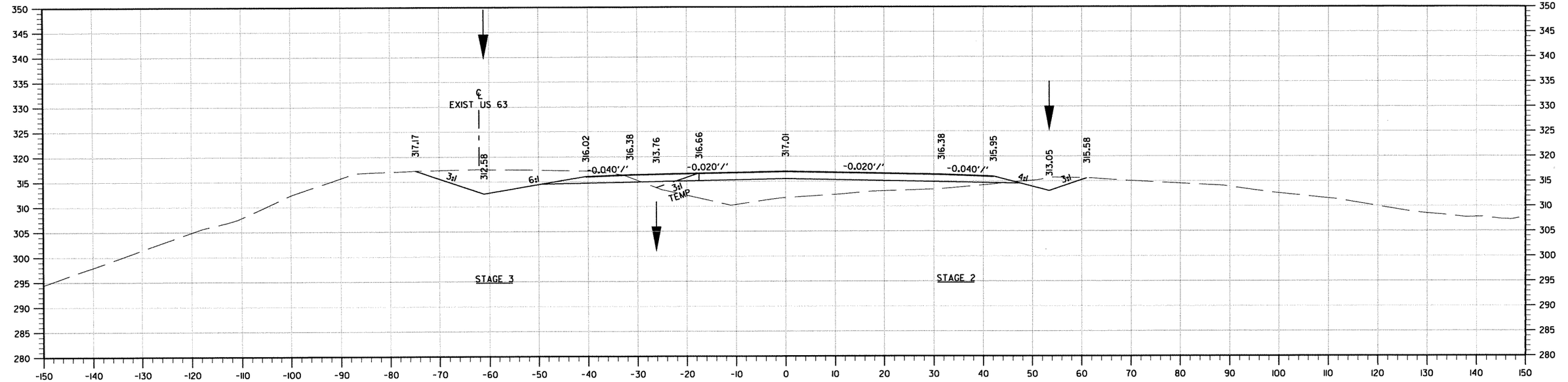
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	131
Area Fill	0	Area Fill	561	Area Fill	6

133+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	18	Volume Cut	236
Volume Fill	0	Volume Fill	692	Volume Fill	9



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	19	Area Cut	123
Area Fill	0	Area Fill	186	Area Fill	4

133+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	738	Volume Cut	367
Volume Fill	0	Volume Fill	173	Volume Fill	9

STA. 133+00.00 TO STA. 133+50.00

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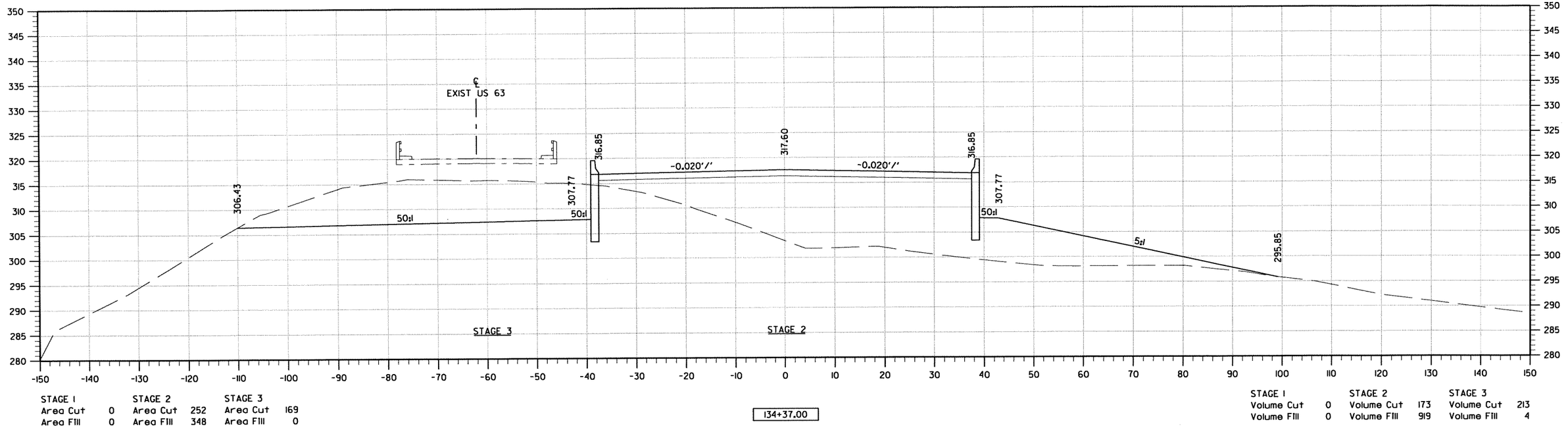
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	201	252

(2) CROSS SECTIONS US 63

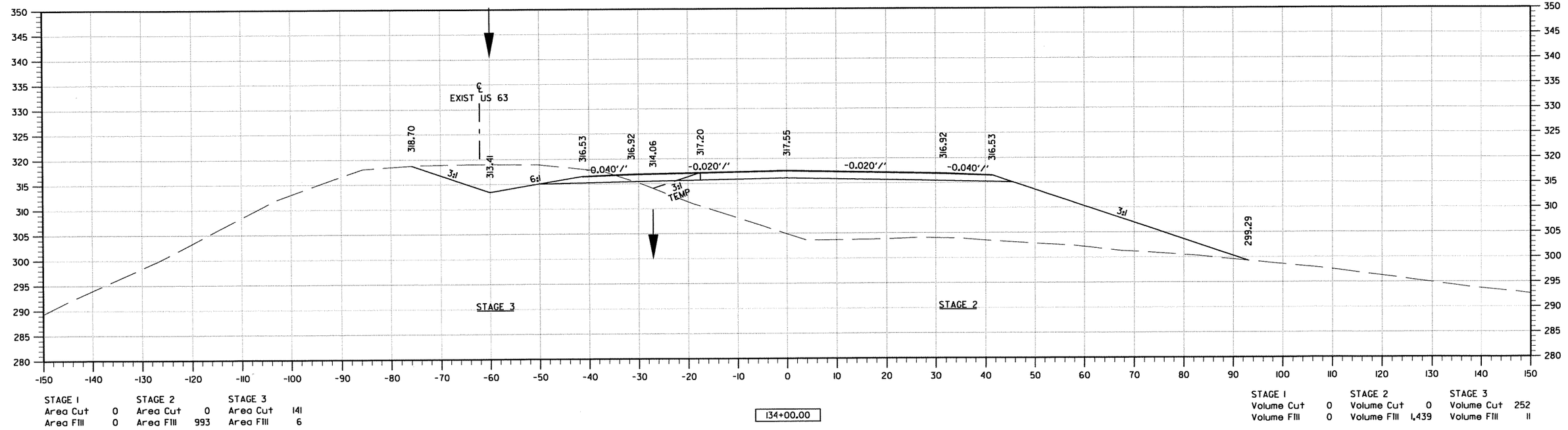
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8/21/2012



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	252	Area Cut	169
Area Fill	0	Area Fill	348	Area Fill	0

134+37.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	173	Volume Cut	213
Volume Fill	0	Volume Fill	919	Volume Fill	4



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	141
Area Fill	0	Area Fill	993	Area Fill	6

134+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	252
Volume Fill	0	Volume Fill	1,439	Volume Fill	11

STA. 134+00.00 TO STA. 134+37.00

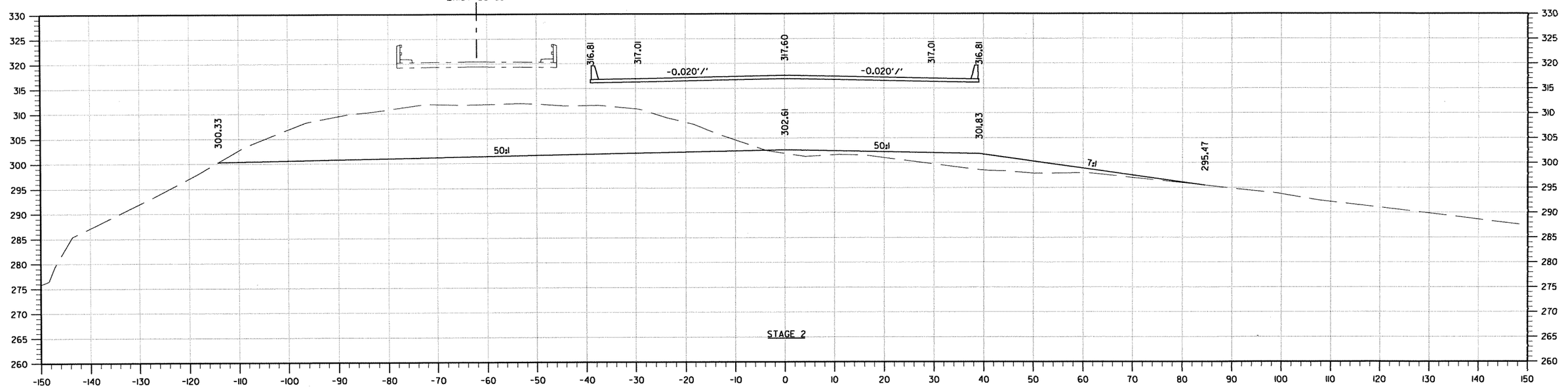
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	202	252

② CROSS SECTIONS US 63

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℄ EXIST US 63

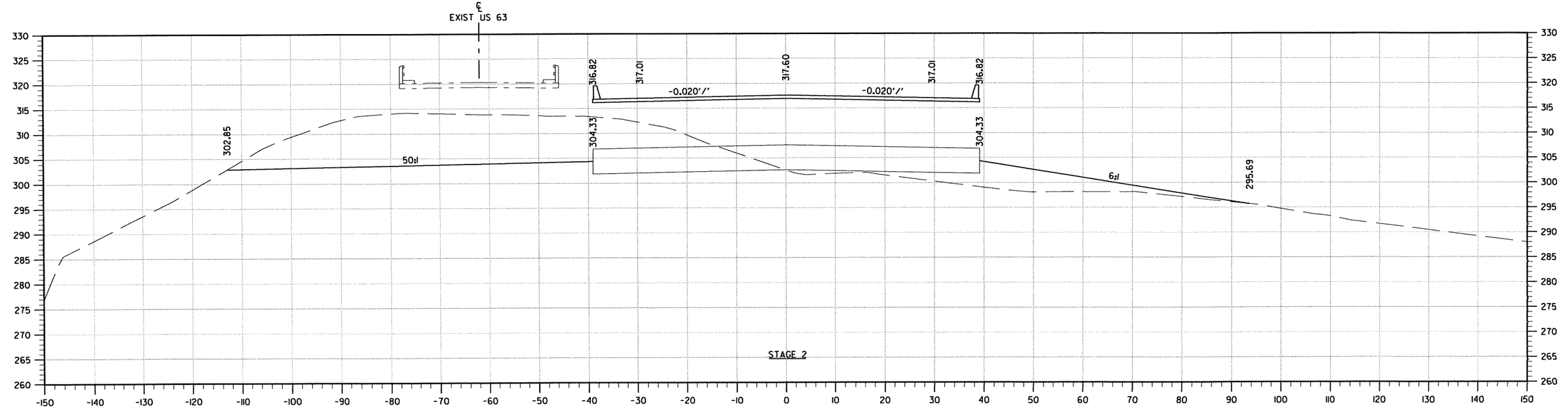


STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	247	Area Cut	264
Area Fill	0	Area Fill	120	Area Fill	0

134+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	72	Volume Cut	91
Volume Fill	0	Volume Fill	64	Volume Fill	0

℄ EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	308	Area Cut	438
Area Fill	0	Area Fill	375	Area Fill	0

134+43.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	62	Volume Cut	67
Volume Fill	0	Volume Fill	80	Volume Fill	0

STA. 134+43.00 TO STA. 134+50.00

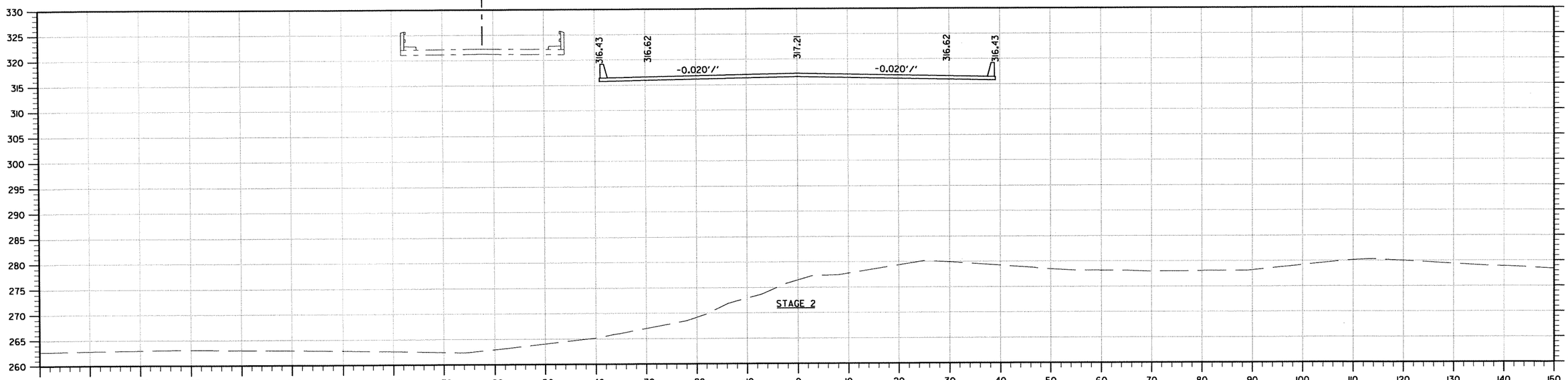
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	203	252

② CROSS SECTIONS US 63

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℄ EXIST US 63

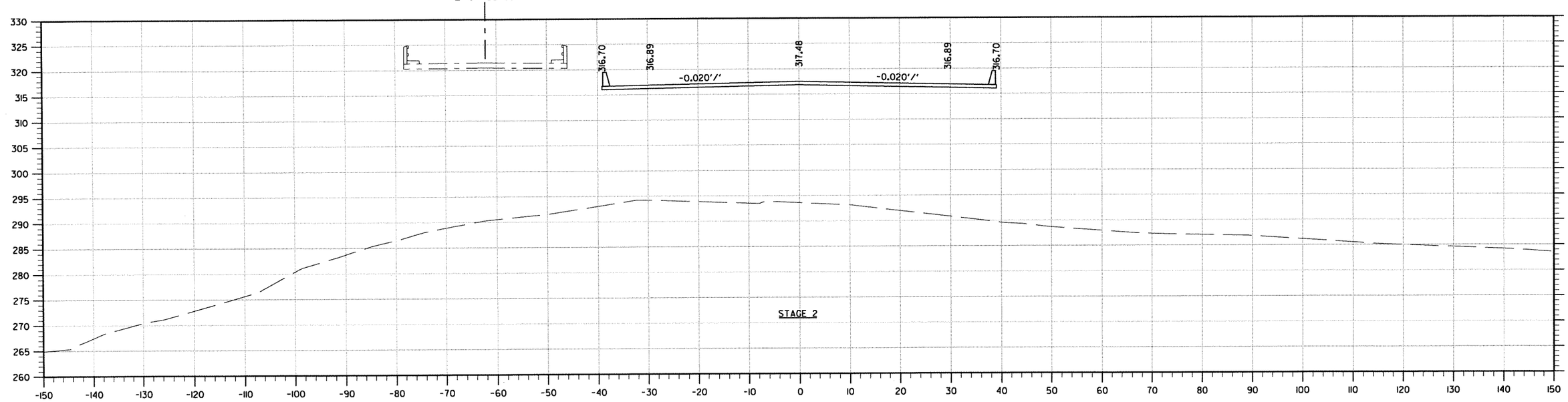


STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

135+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

℄ EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

135+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	137	Volume Cut	147
Volume Fill	0	Volume Fill	67	Volume Fill	0

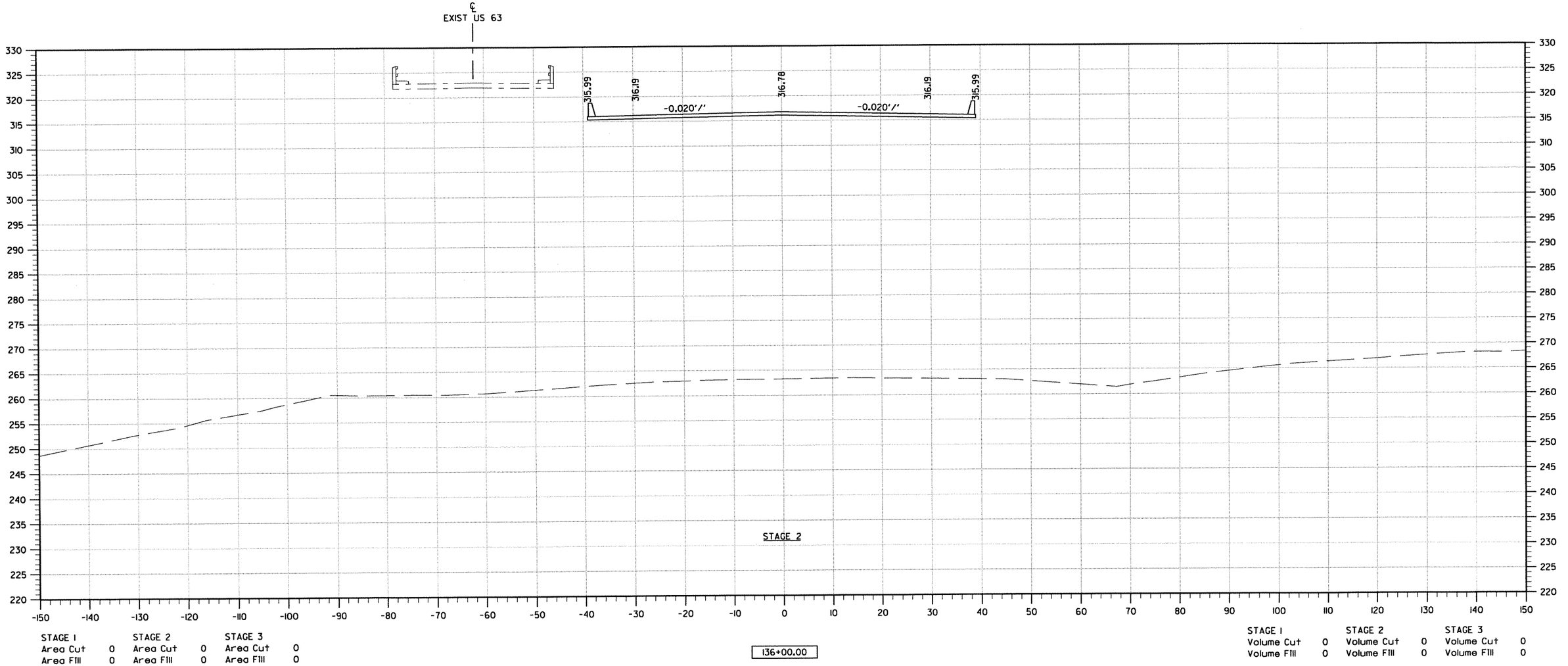
STA. 135+00.00 TO STA. 135+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	204	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

136+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

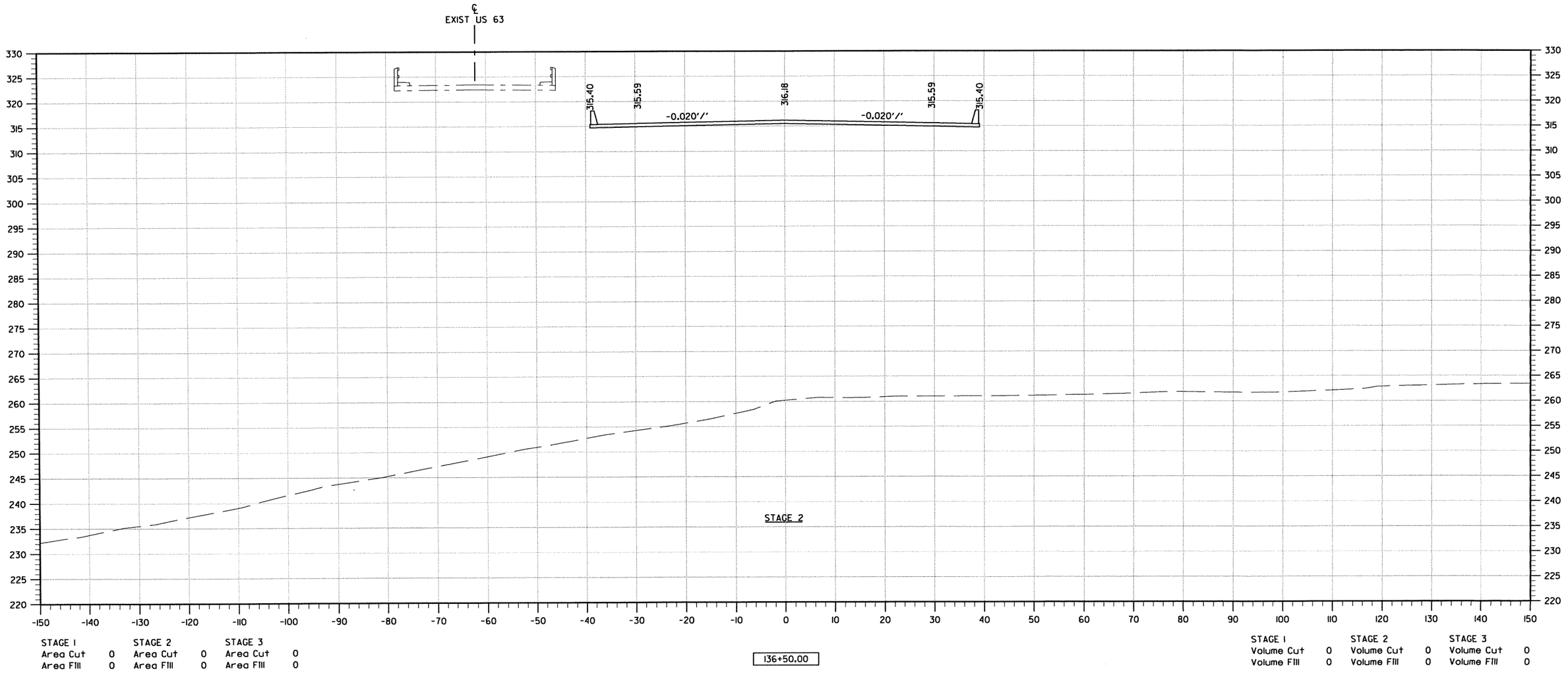
STA. 136+00.00 TO STA. 136+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	205	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

136+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

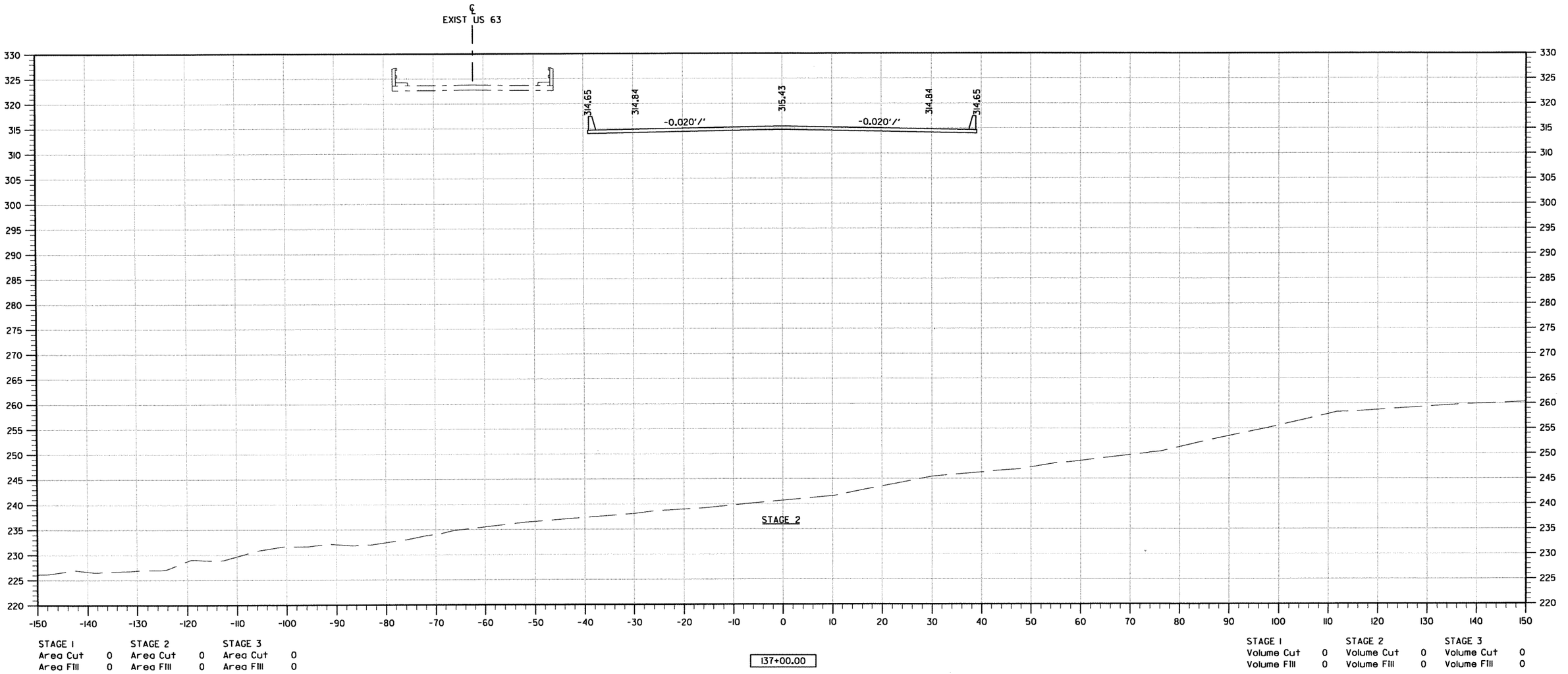
STA. 136+50.00 TO STA. 136+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	206	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

137+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 137+00.00 TO STA. 137+00.00

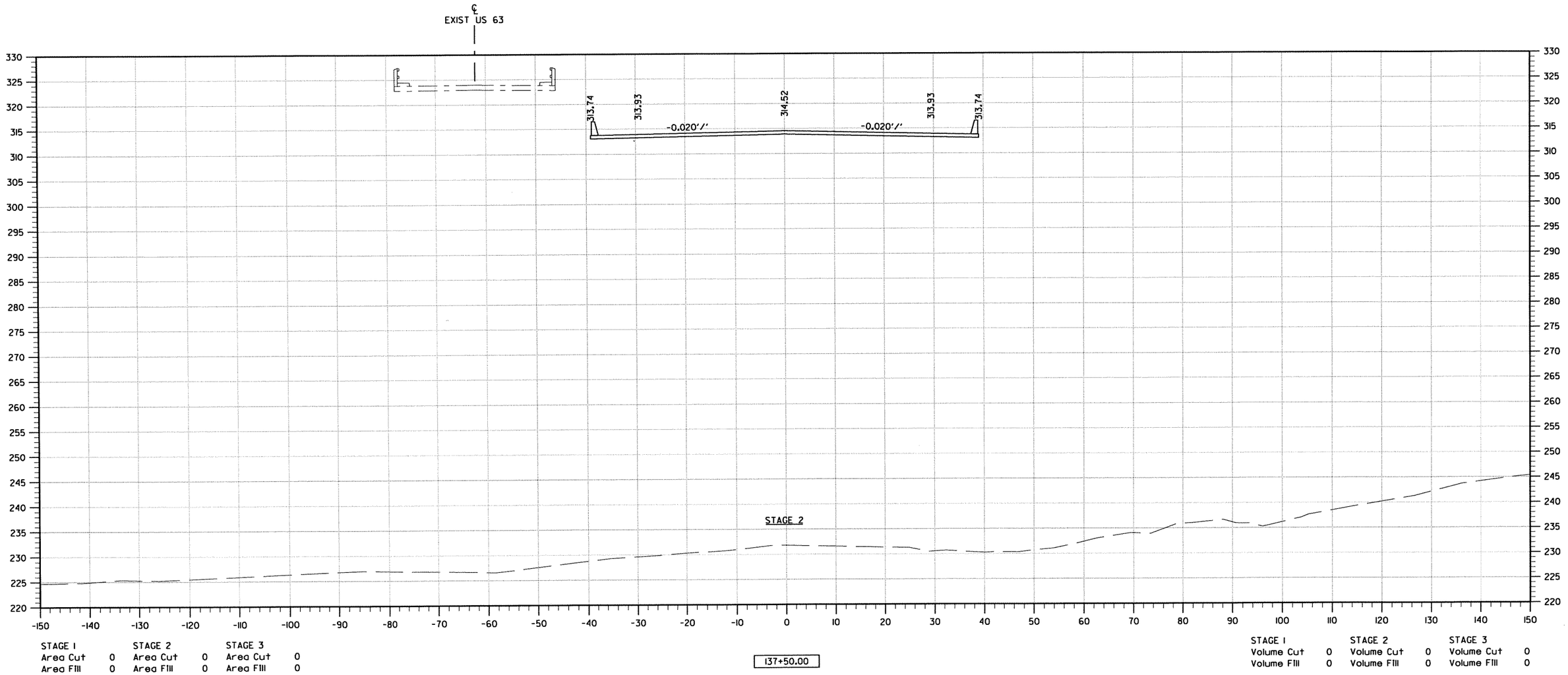
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	207	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

137+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

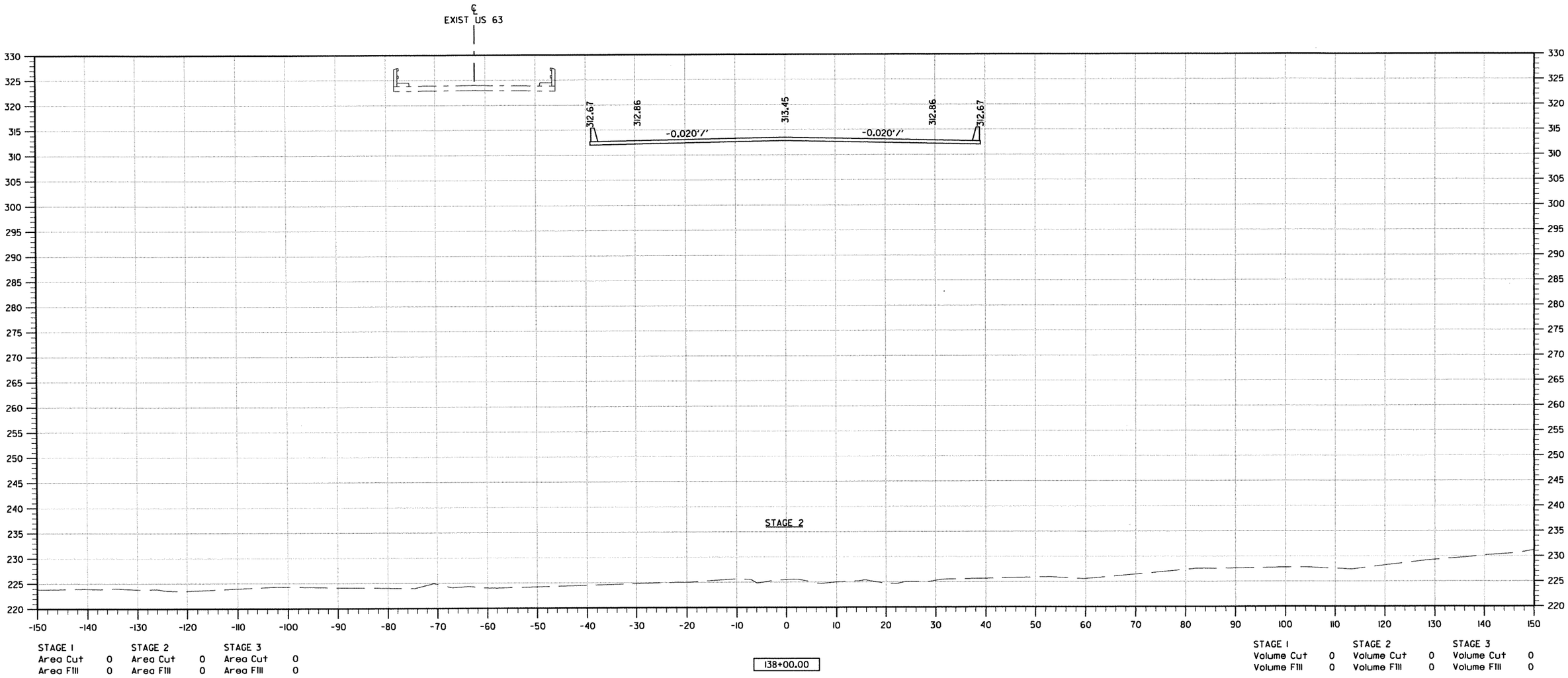
STA. 137+50.00 TO STA. 137+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	208	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

138+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

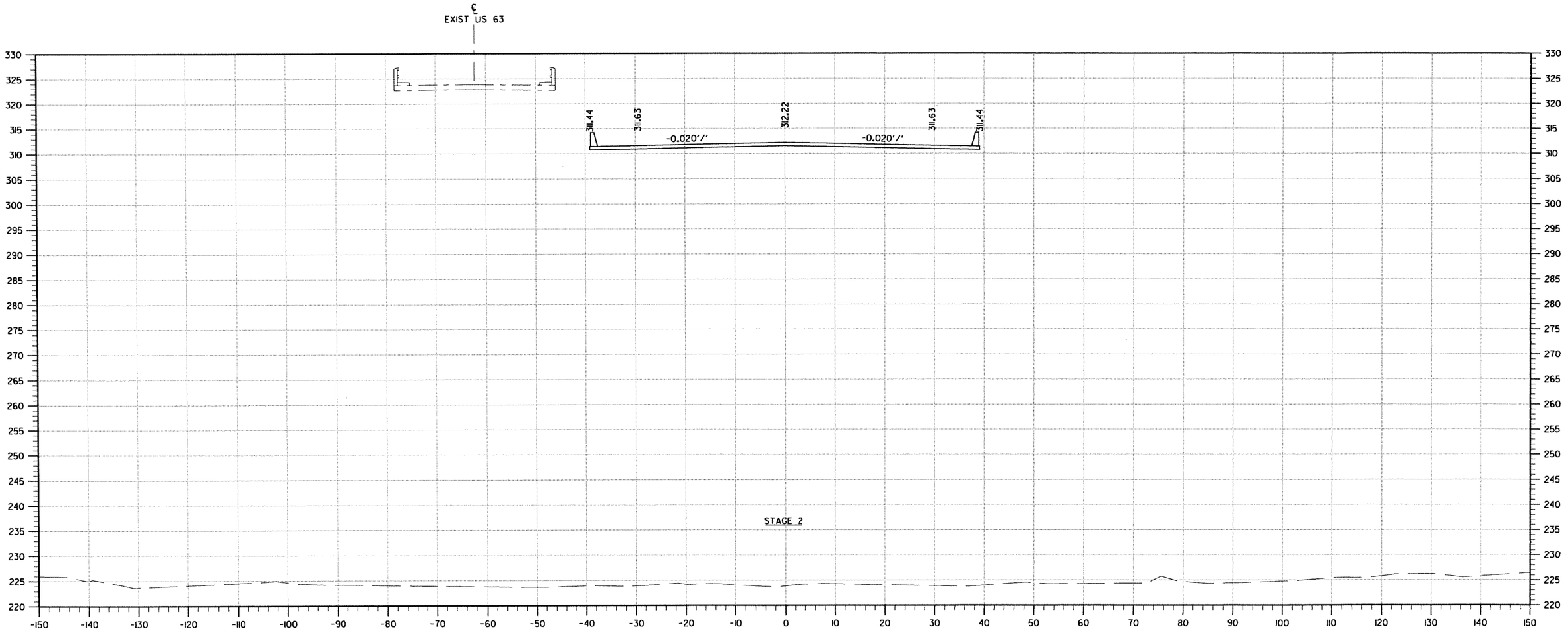
STA. 138+00.00 TO STA. 138+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	209	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

138+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

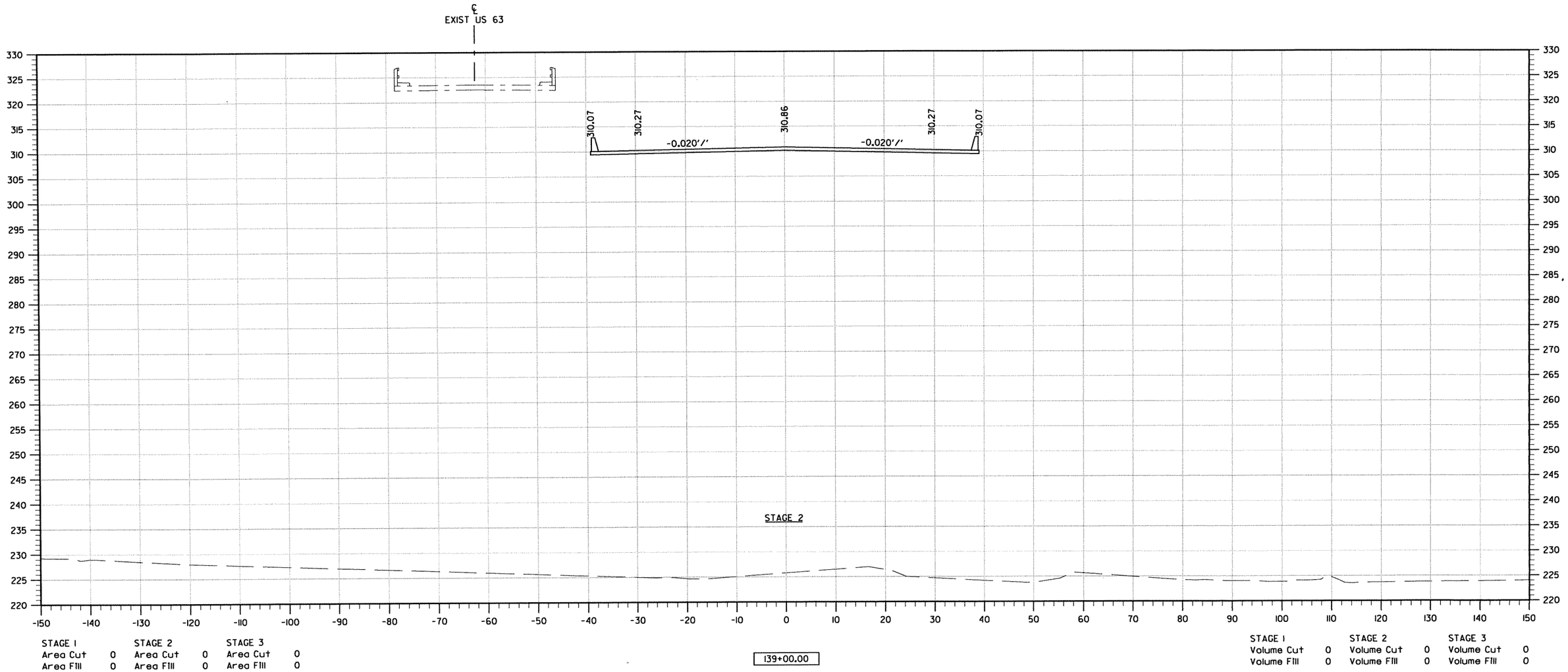
STA. 138+50.00 TO STA. 138+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	210	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

139+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

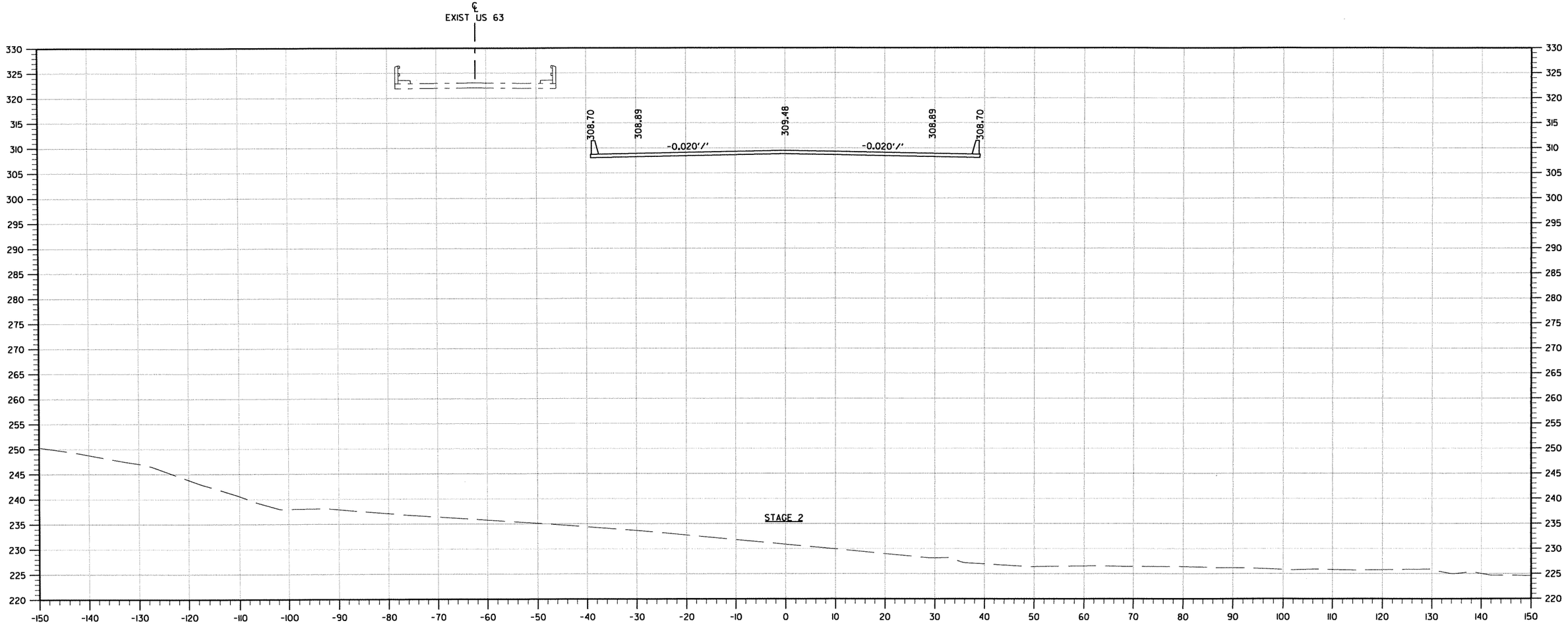
STA. 139+00.00 TO STA. 139+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	211	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

139+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

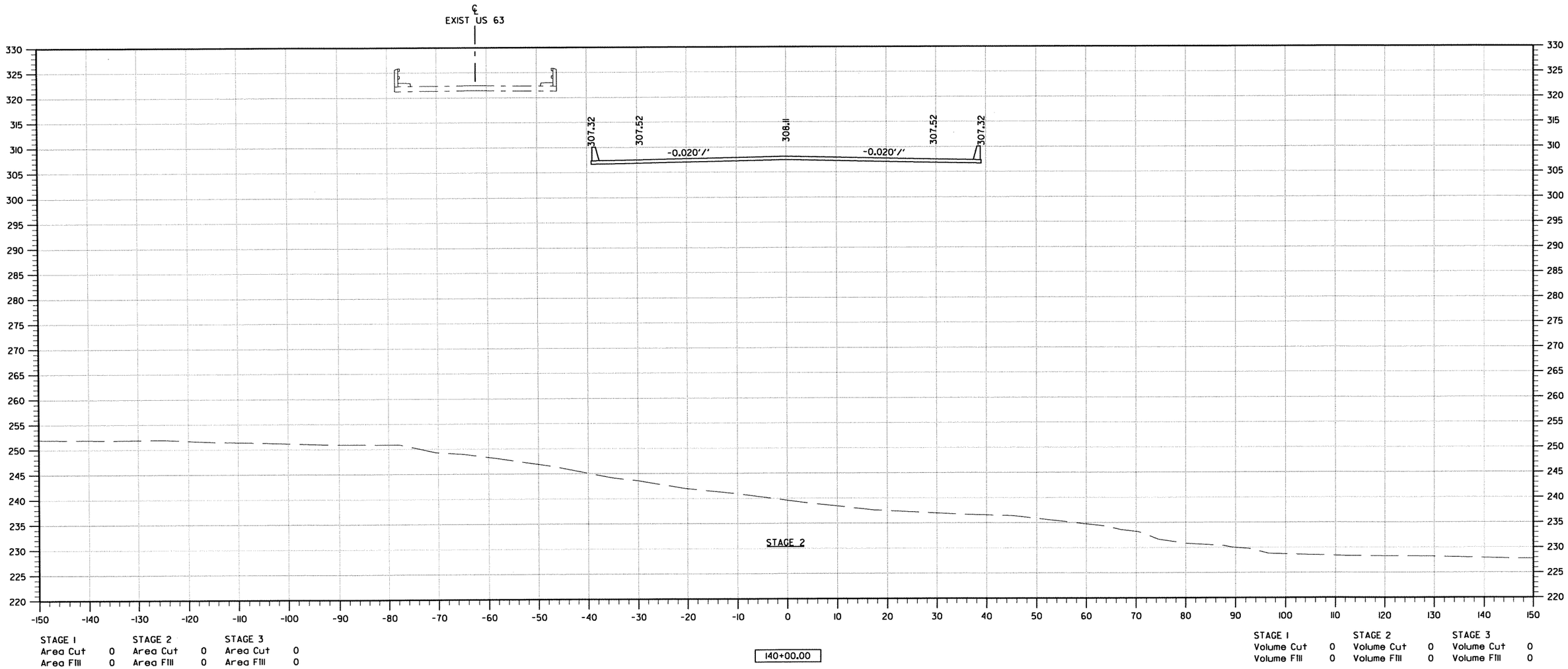
STA. 139+50.00 TO STA. 139+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	212	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

140+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 140+00.00 TO STA. 140+00.00

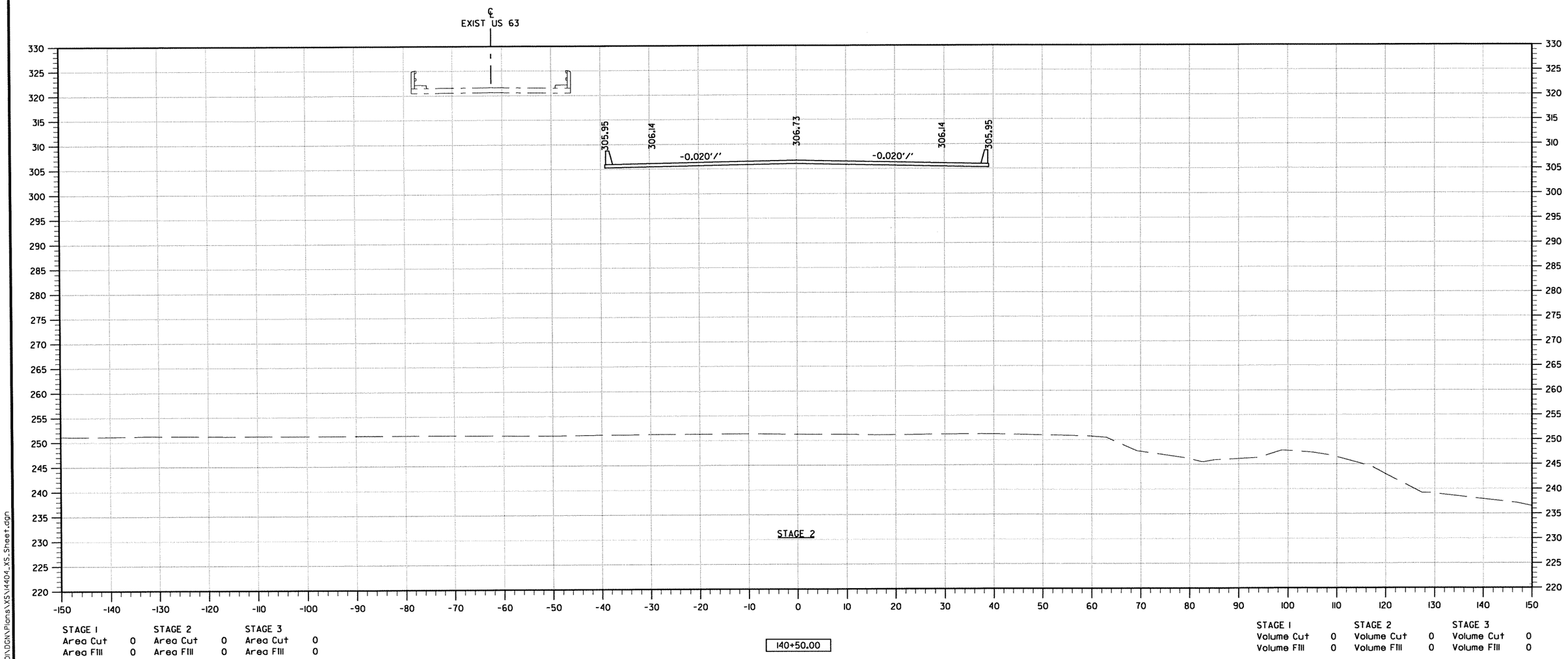
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8/27/2012 12:00:28 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	213	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

140+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 140+50.00 TO STA. 140+50.00

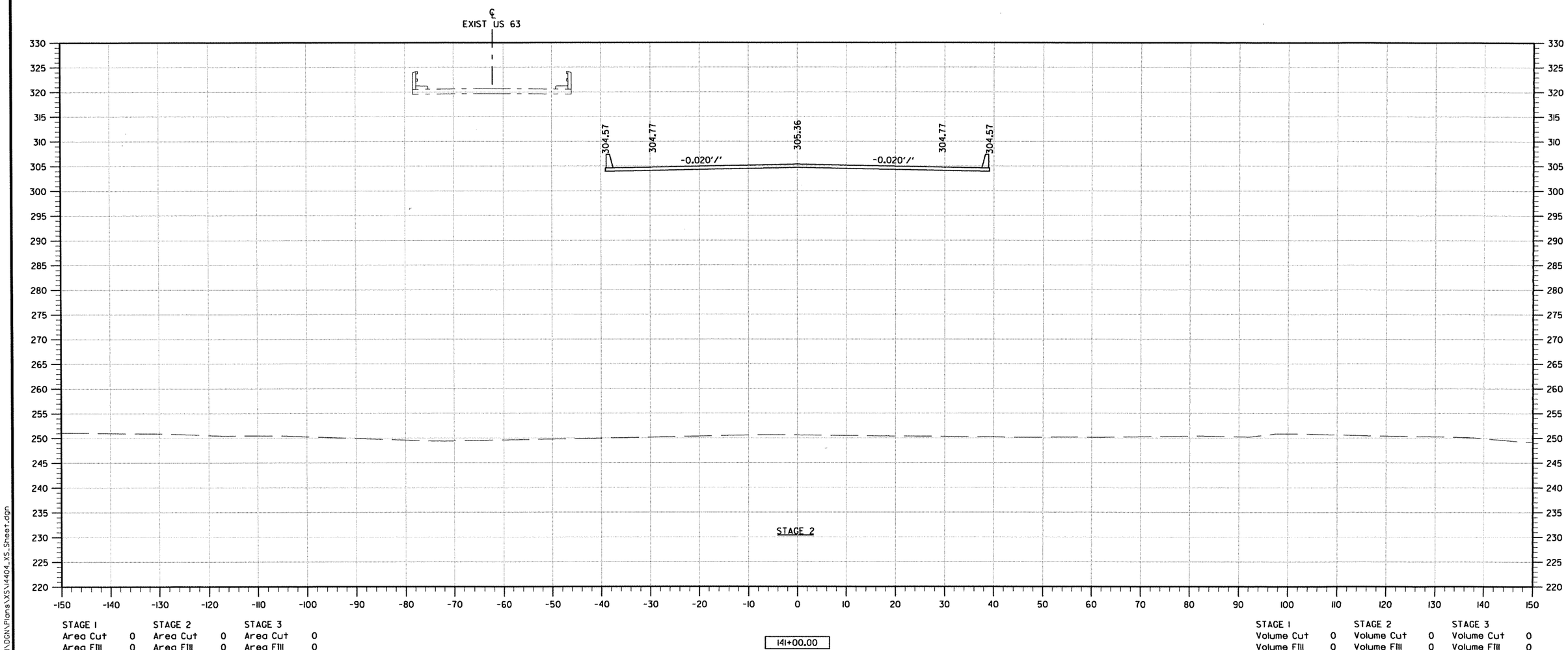
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	214	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

141+00.00

STAGE 1		STAGE 2		STAGE 3	
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Volume Fill	0	Volume Fill	0	Volume Fill	0

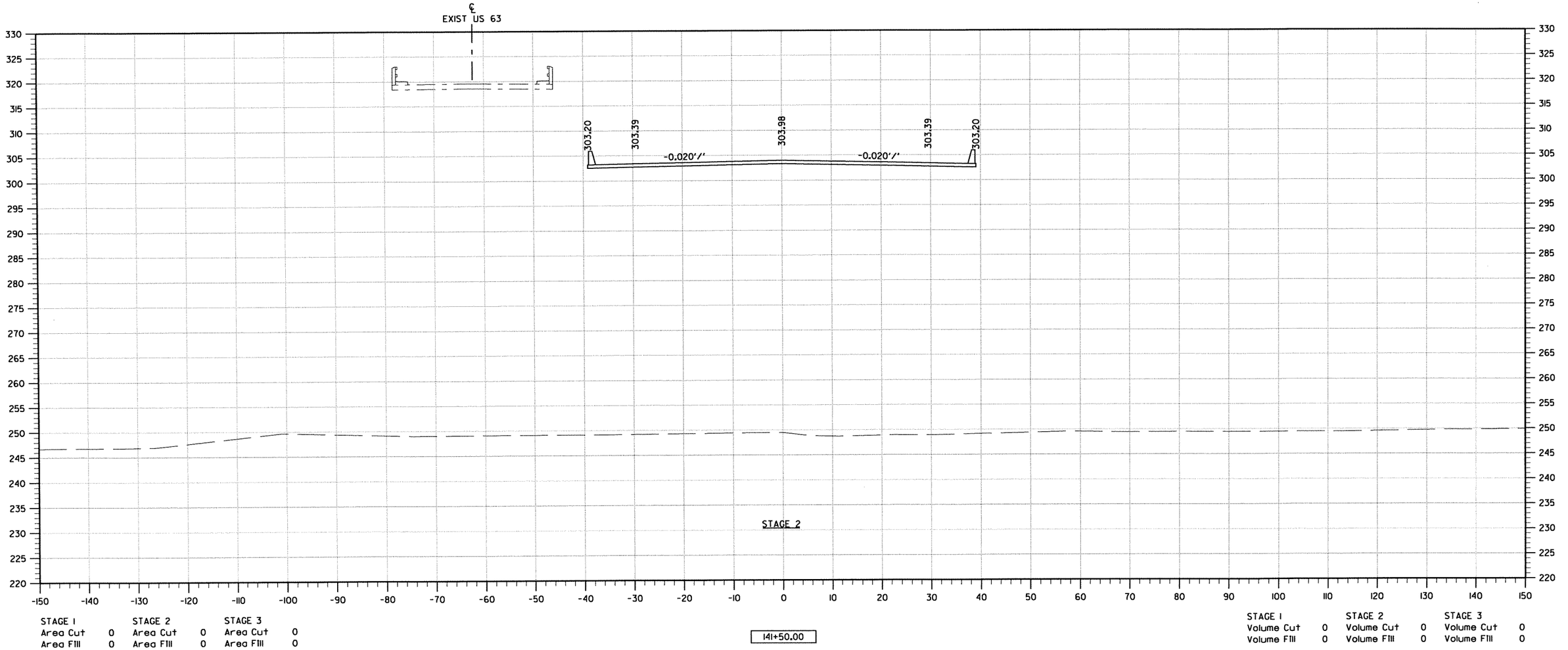
STA. 141+00.00 TO STA. 141+00.00

S:\14404\01\DGN\Plans\XS\14404_XS_Sheet.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	215	252

(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

141+50.00

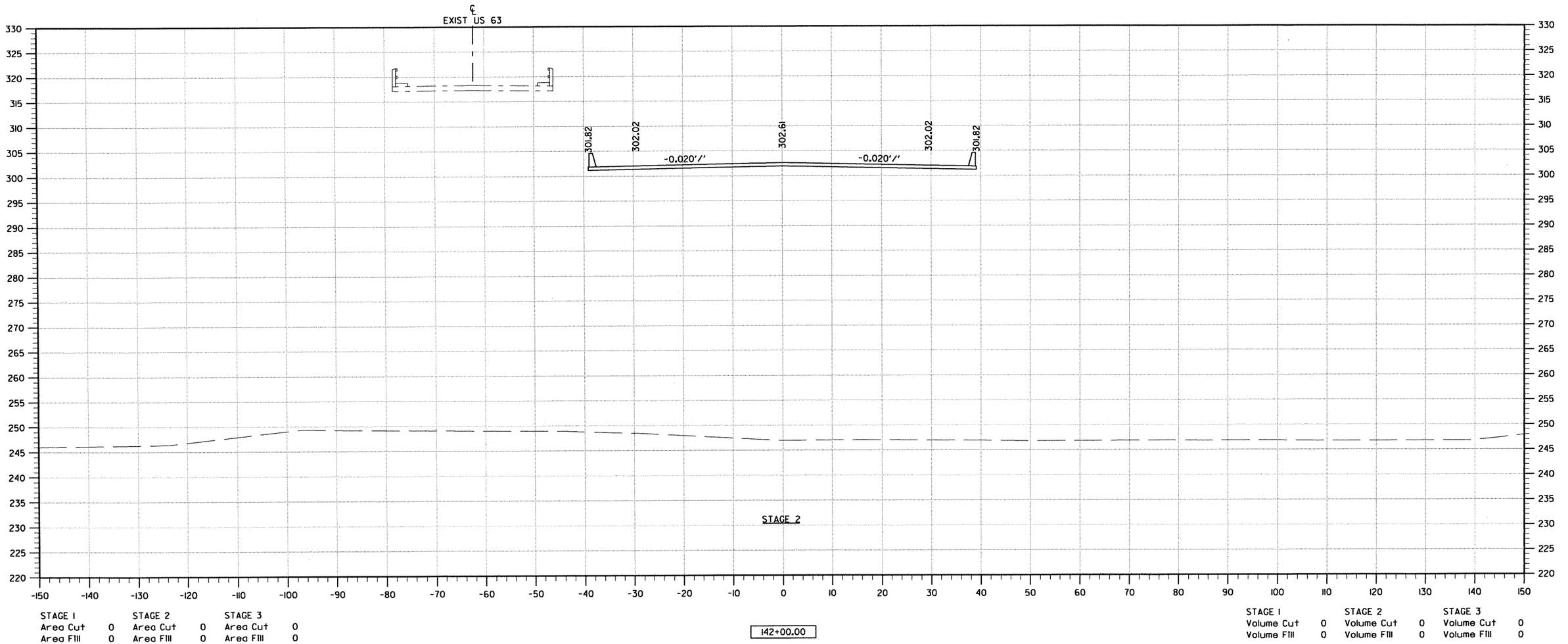
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 141+50.00 TO STA. 141+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	216	252
				②	CROSS SECTIONS US 63			

8/27/2012 12:00:28 PM



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

142+00.00

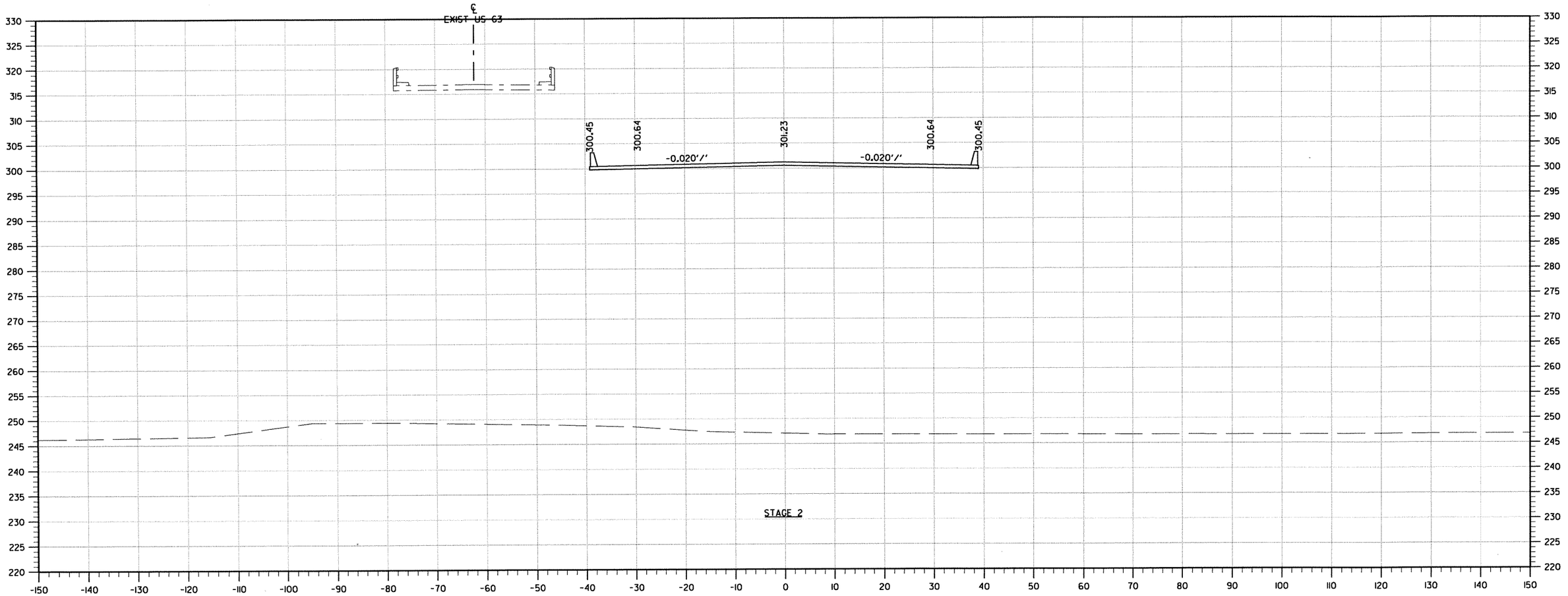
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 142+00.00 TO STA. 142+00.00

S:\14404\01\DGN\Plans\XS\14404_XS_Sheet.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	217	252
				(2)	CROSS SECTIONS US 63			

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

142+50.00

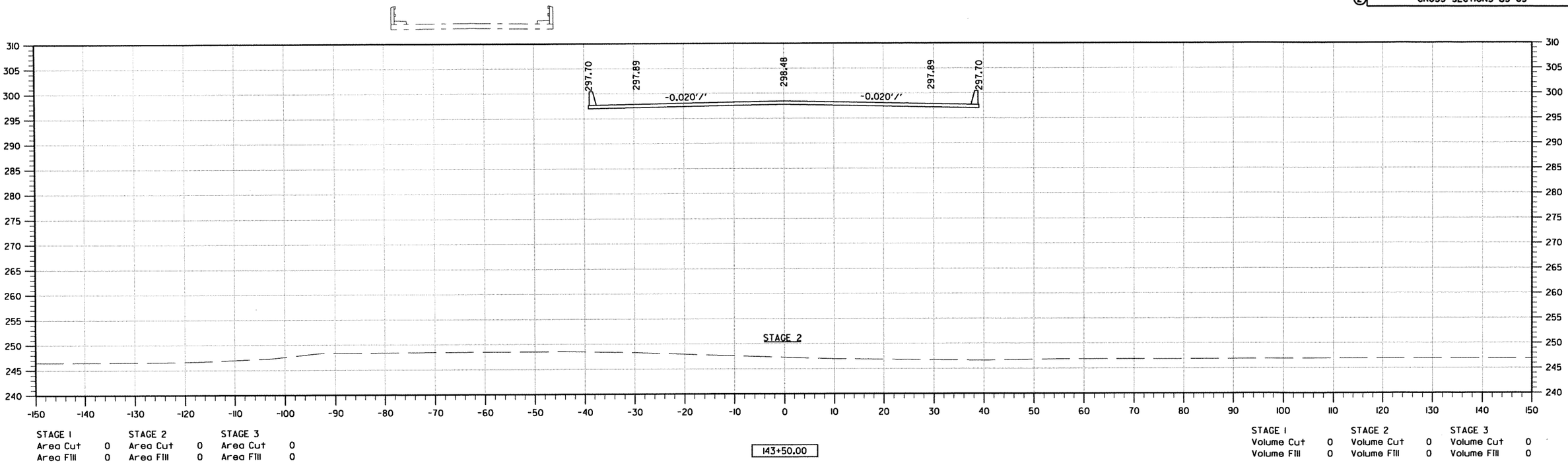
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 142+50.00 TO STA. 142+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	218	252

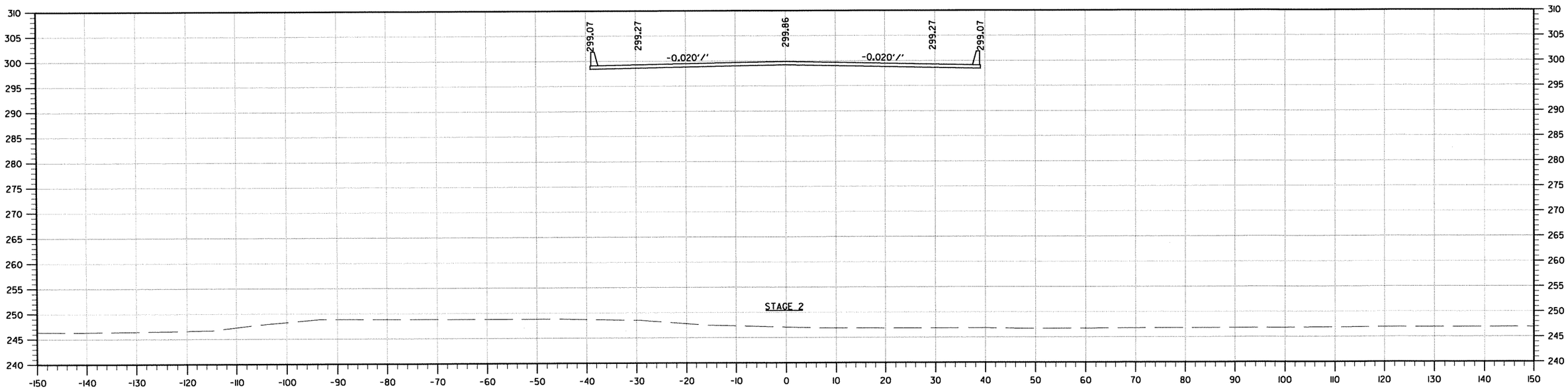
② CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

143+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

143+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 143+00.00 TO STA. 143+50.00

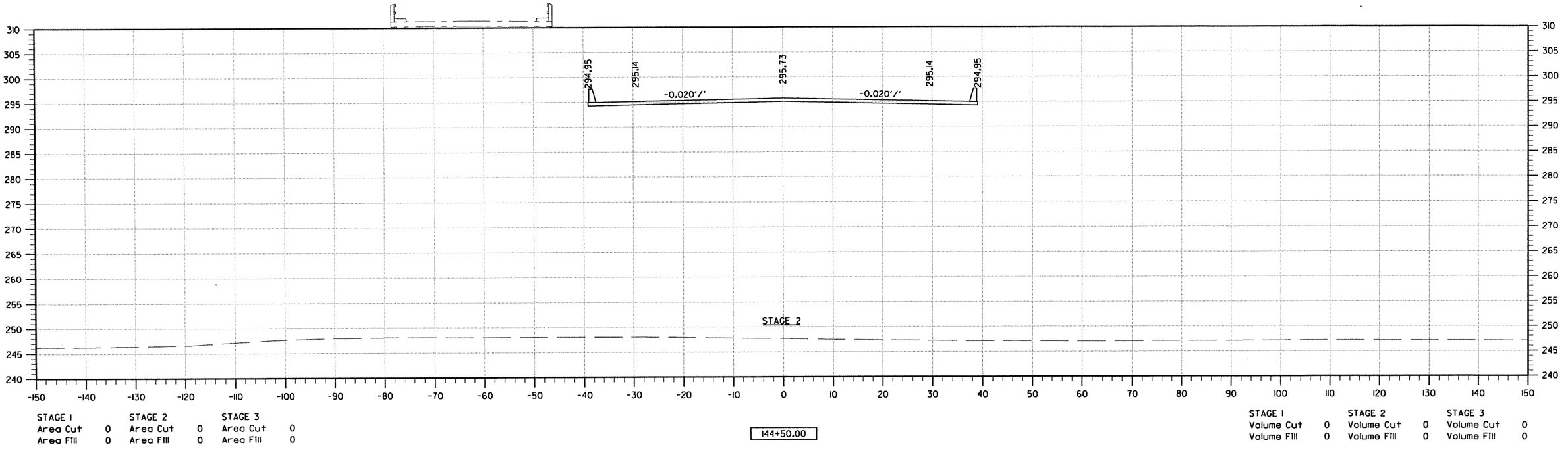
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	219	252

(2) CROSS SECTIONS US 63

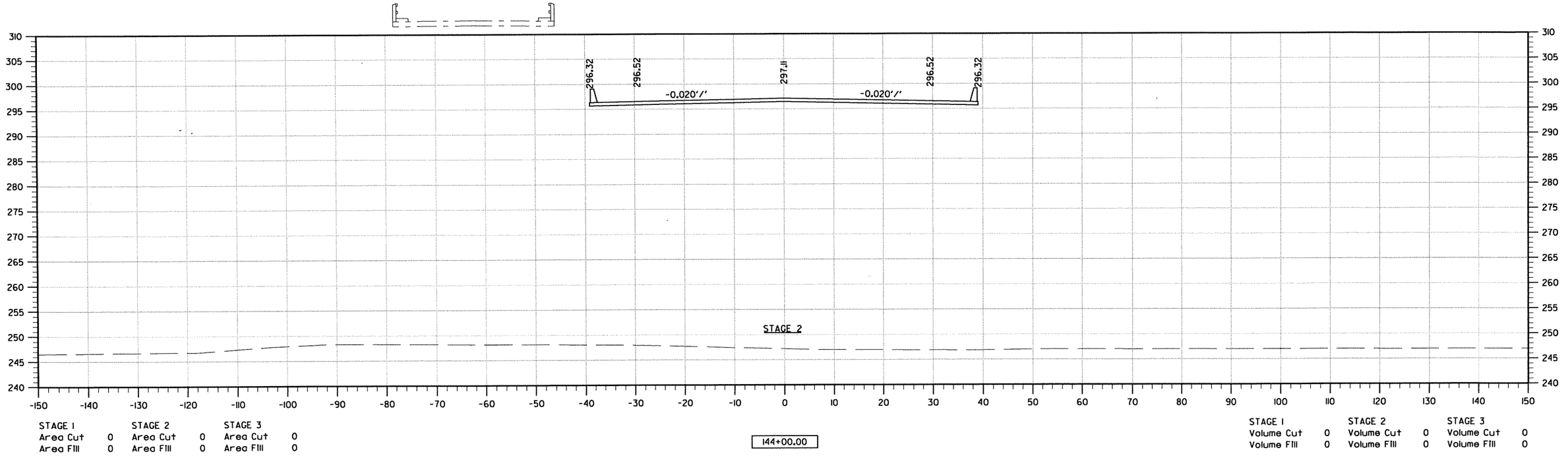
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STAGE 1		STAGE 2		STAGE 3	
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Area Fill	0	Area Fill	0	Area Fill	0

144+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

144+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 144+00.00 TO STA. 144+50.00

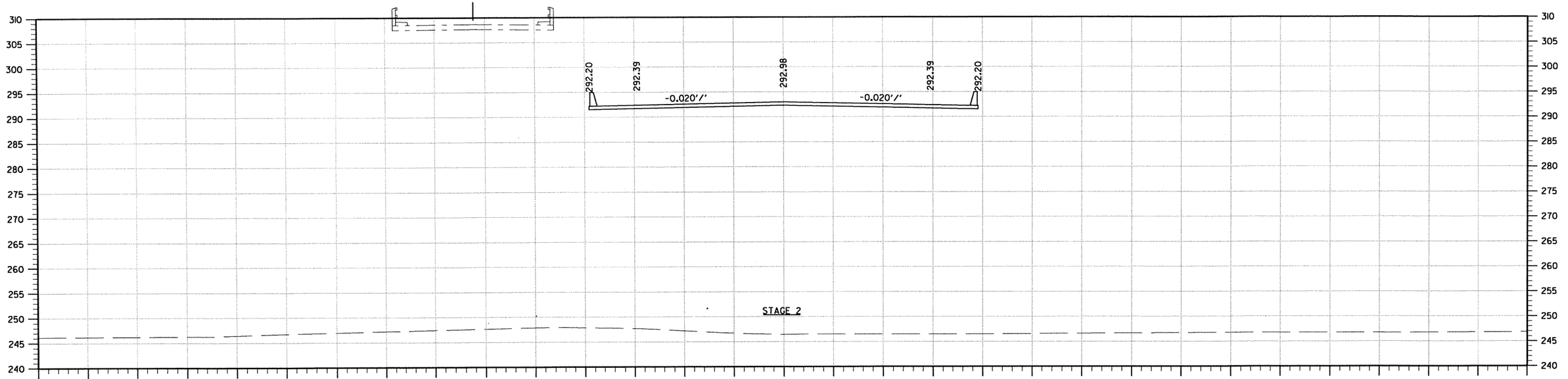
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	220	252

② CROSS SECTIONS US 63

12:00:41 PM
8/27/2012

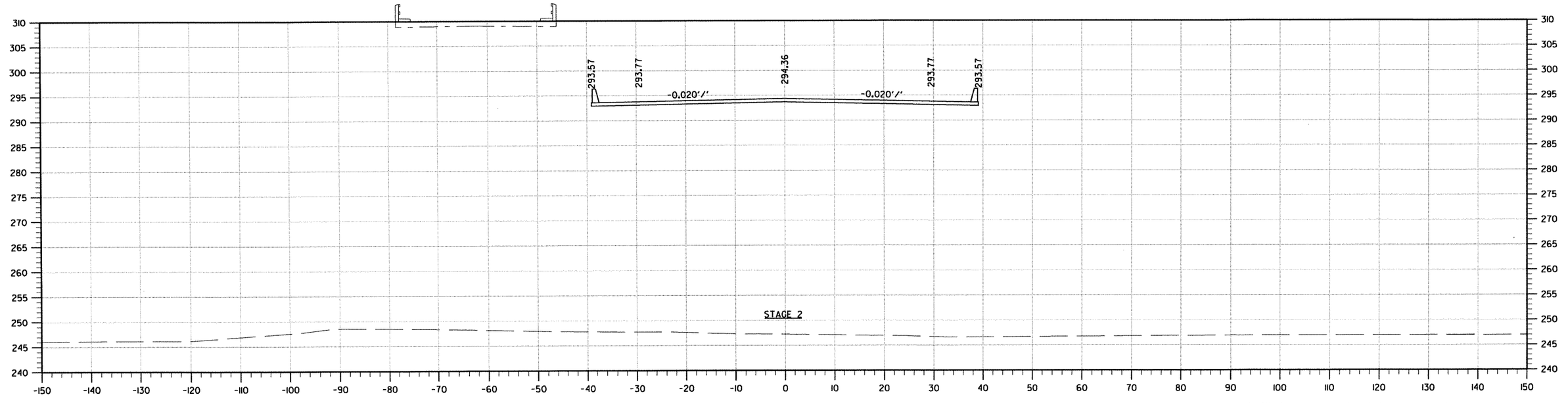
℄ EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

145+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

145+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 145+00.00 TO STA. 145+50.00

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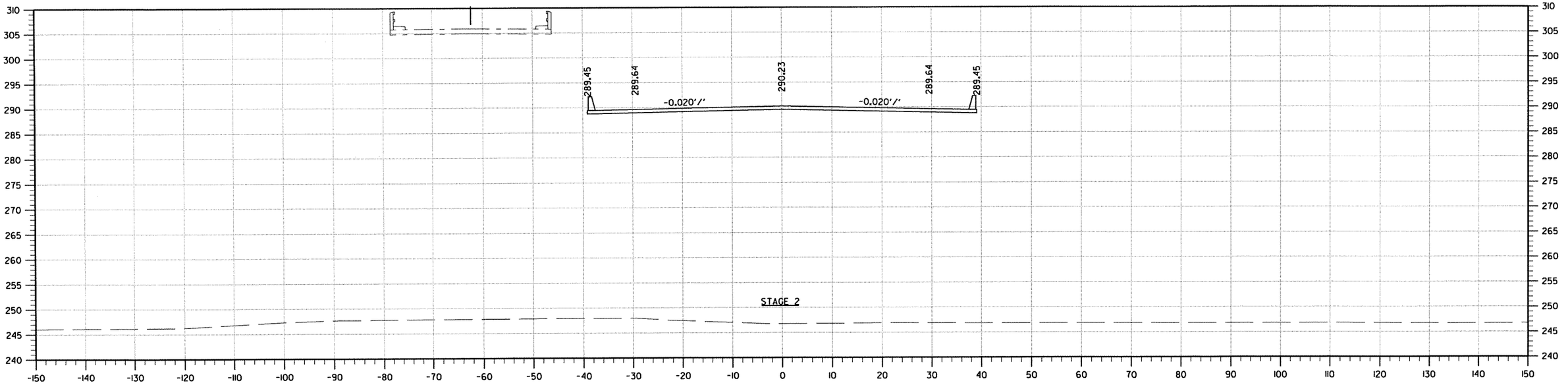
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				JOB NO.		100687	221	252

(2) CROSS SECTIONS US 63

12:00:41 PM

8/27/2012

℄ EXIST US 63

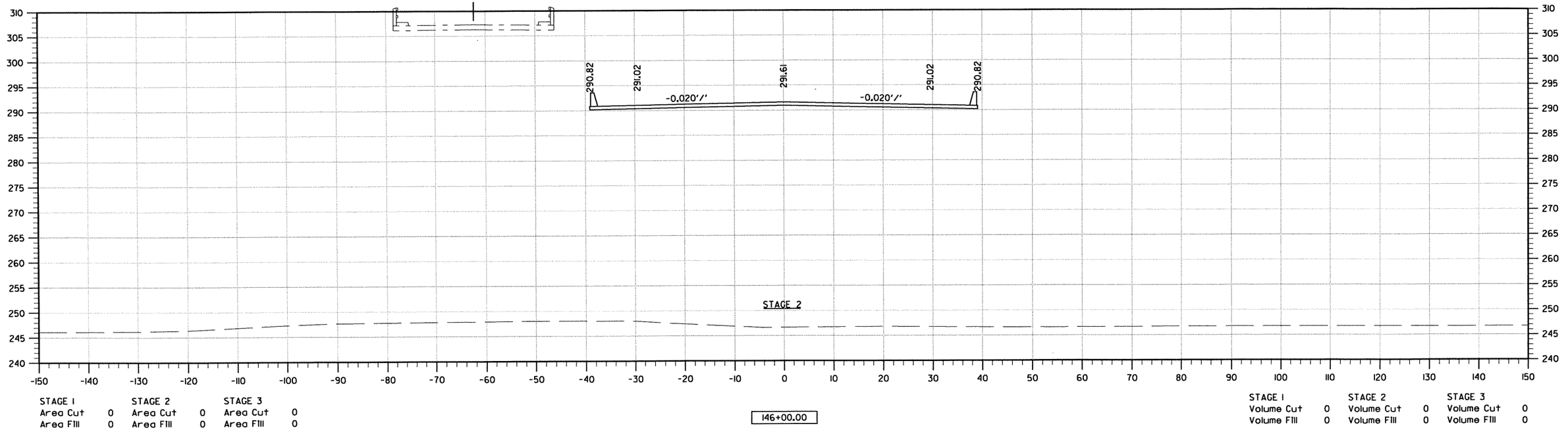


STAGE 1		STAGE 2		STAGE 3	
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Area Fill	0	Area Fill	0	Area Fill	0

146+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

℄ EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

146+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 146+00.00 TO STA. 146+50.00

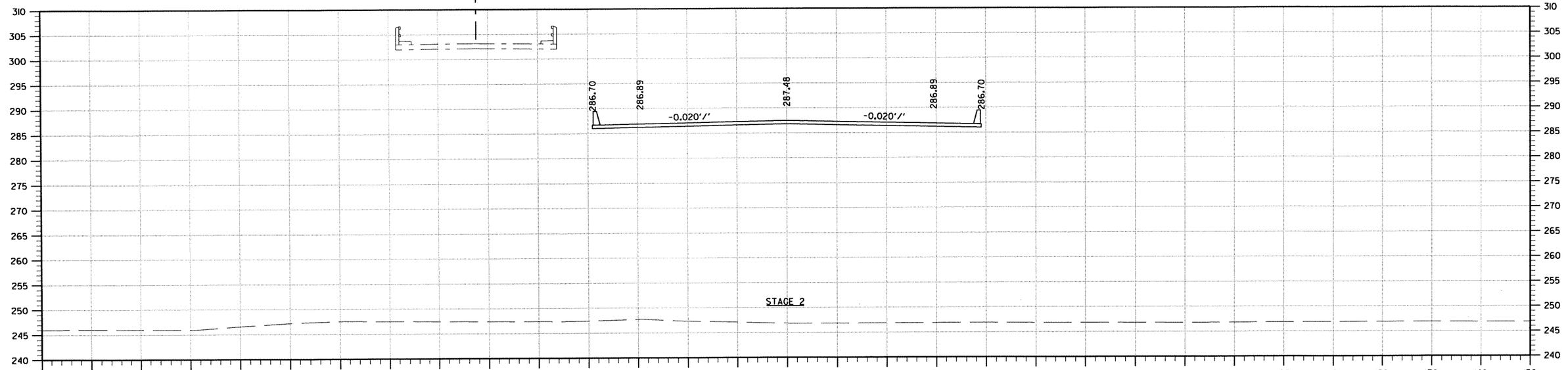
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100687	222	252

(2) CROSS SECTIONS US 63

8/27/2012 12:00:41 PM

℄ EXIST US 63

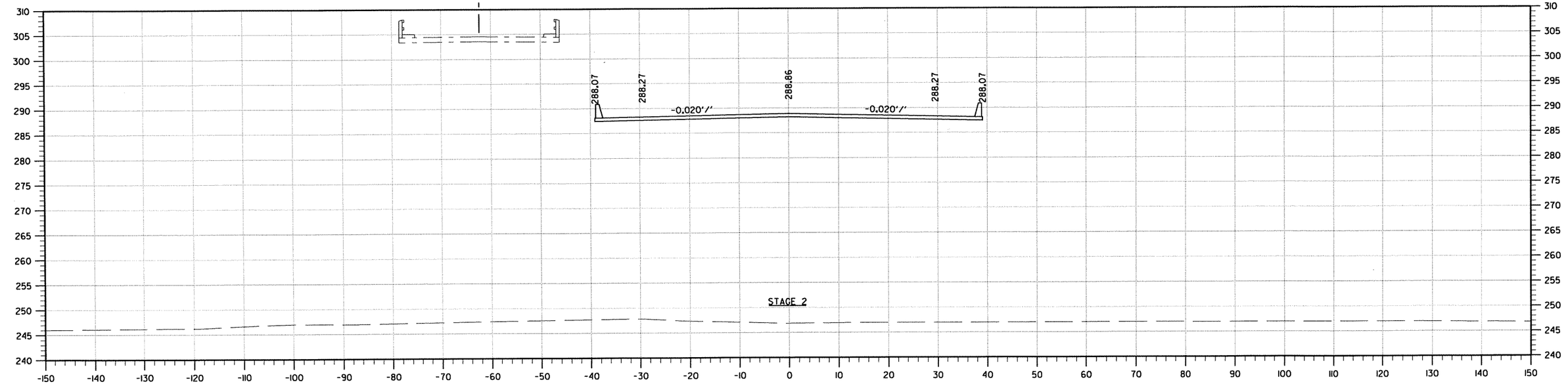


STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

147+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

℄ EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

147+00.00

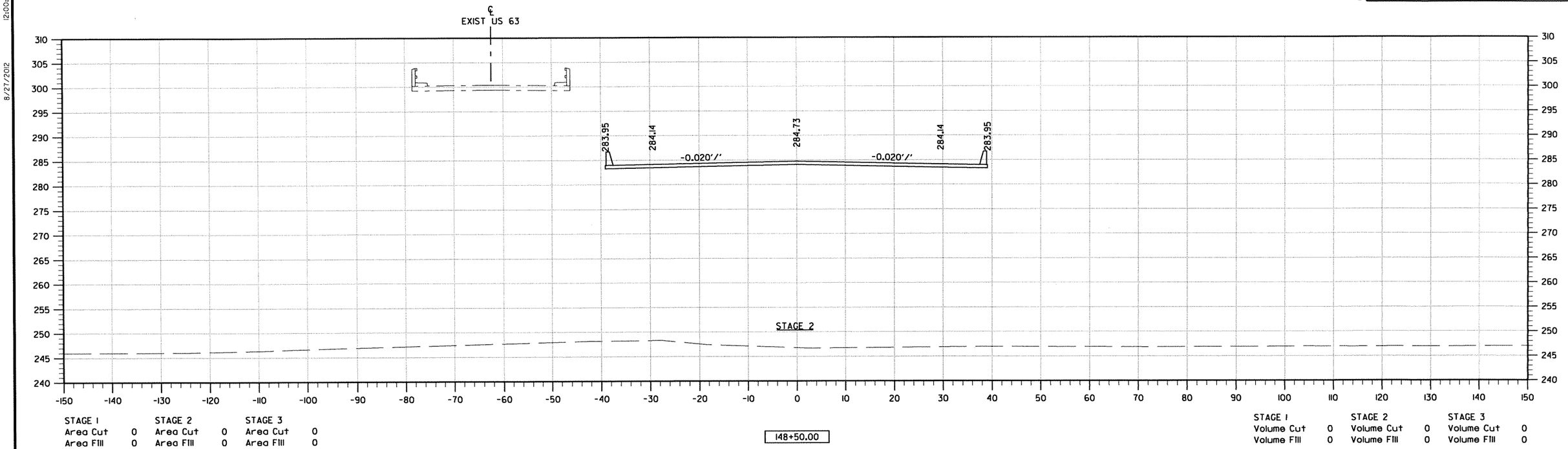
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 147+00.00 TO STA. 147+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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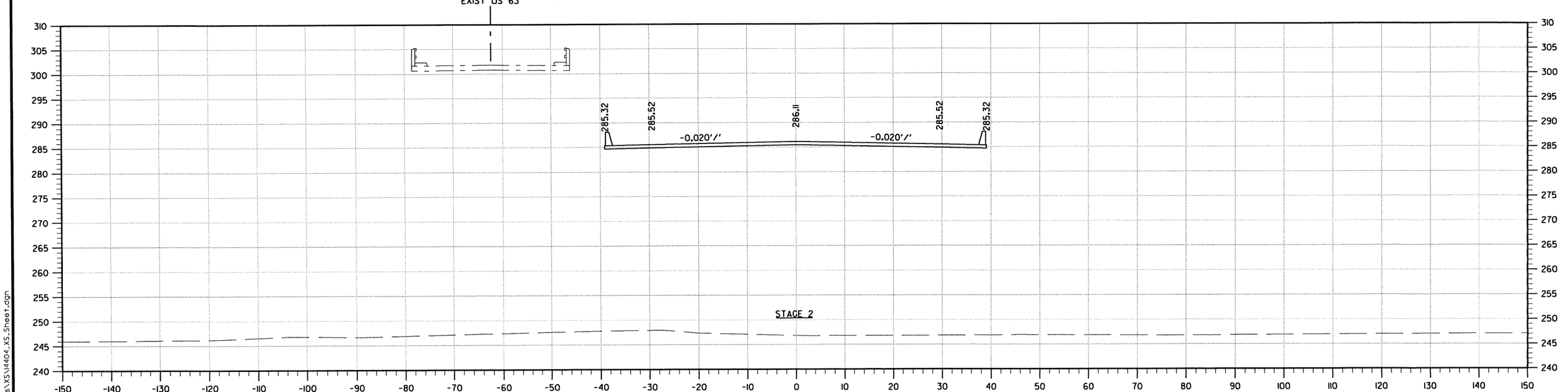
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

148+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

148+00.00

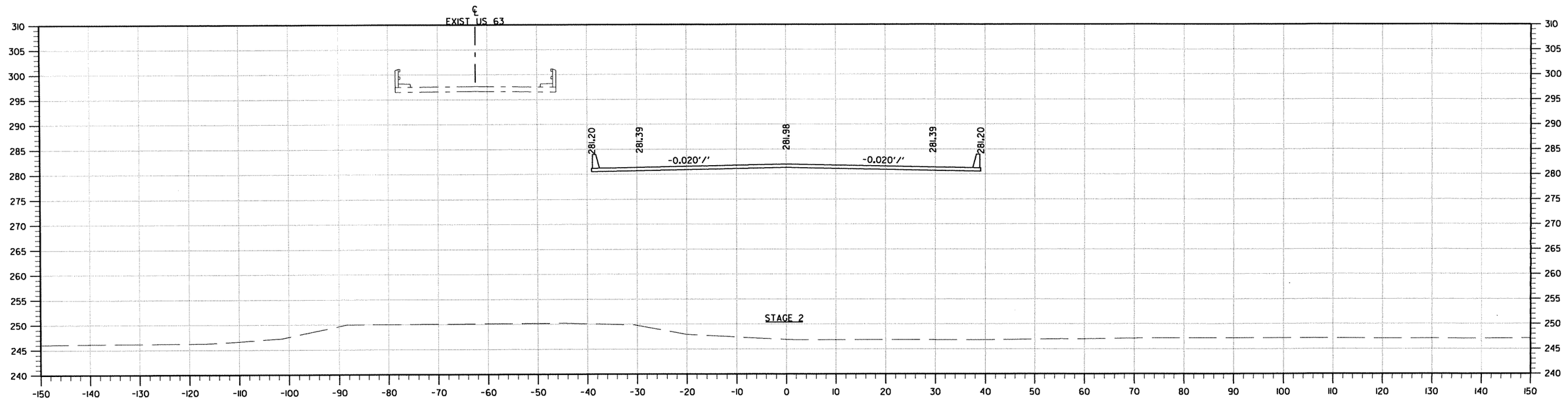
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 148+00.00 TO STA. 148+50.00

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8/27/2012
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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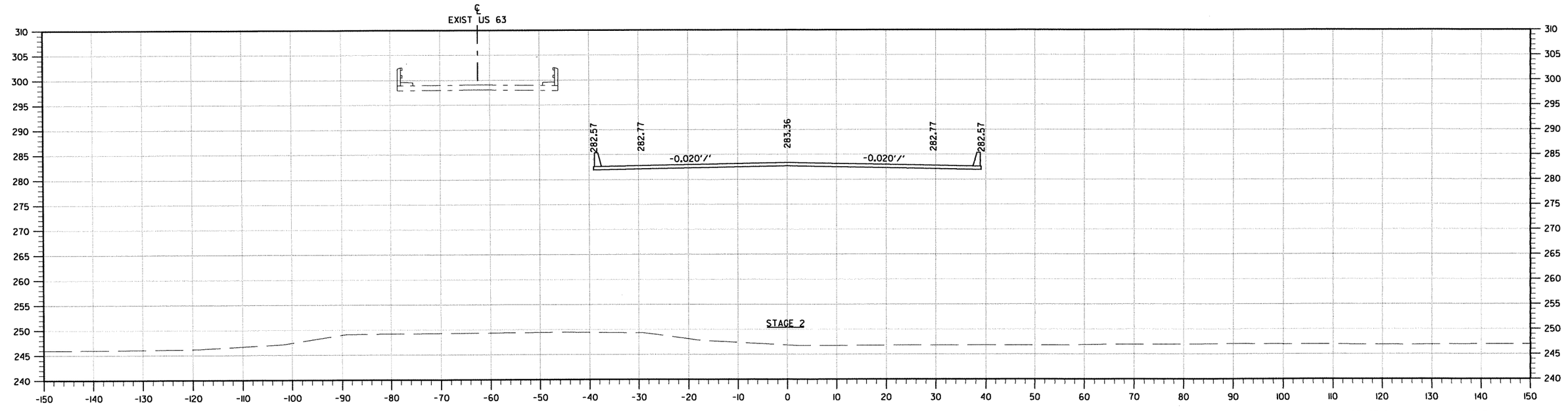
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

149+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

149+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 149+00.00 TO STA. 149+50.00

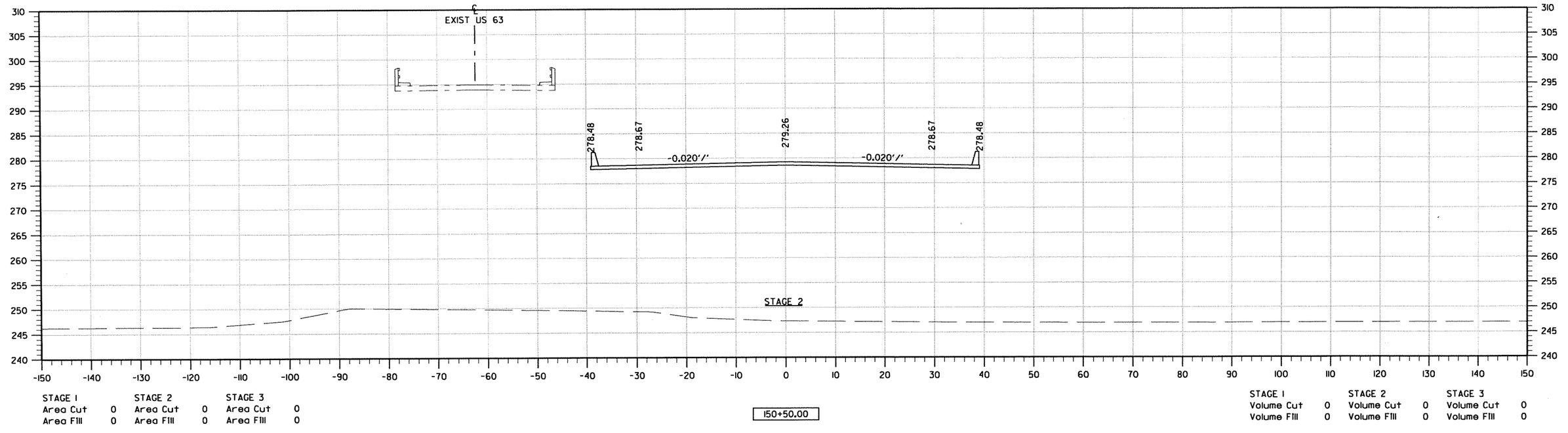
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(2) CROSS SECTIONS US 63

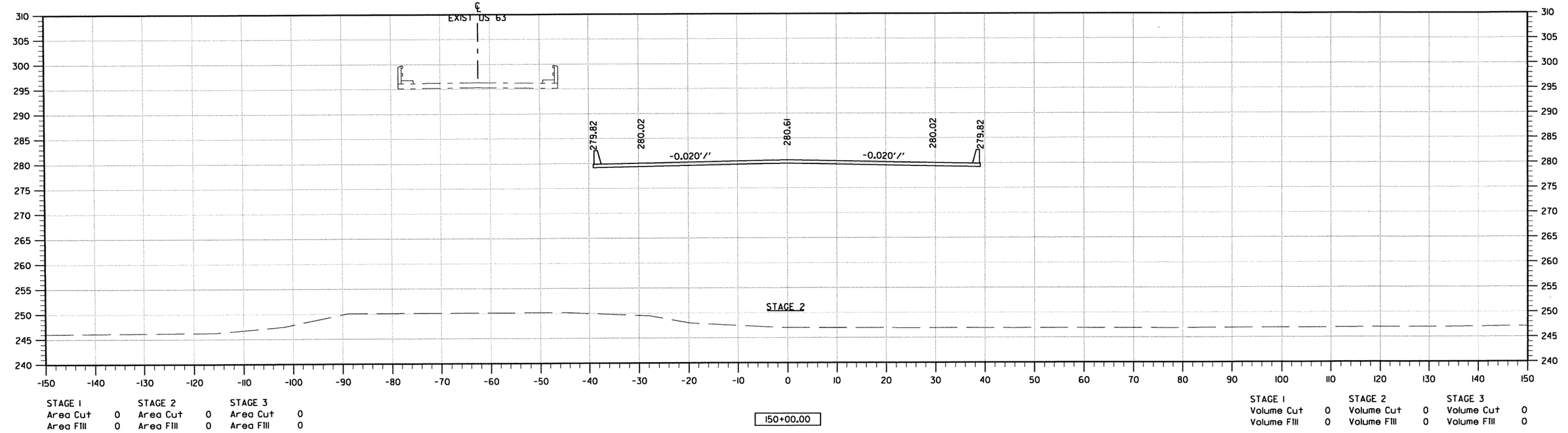
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

150+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

150+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

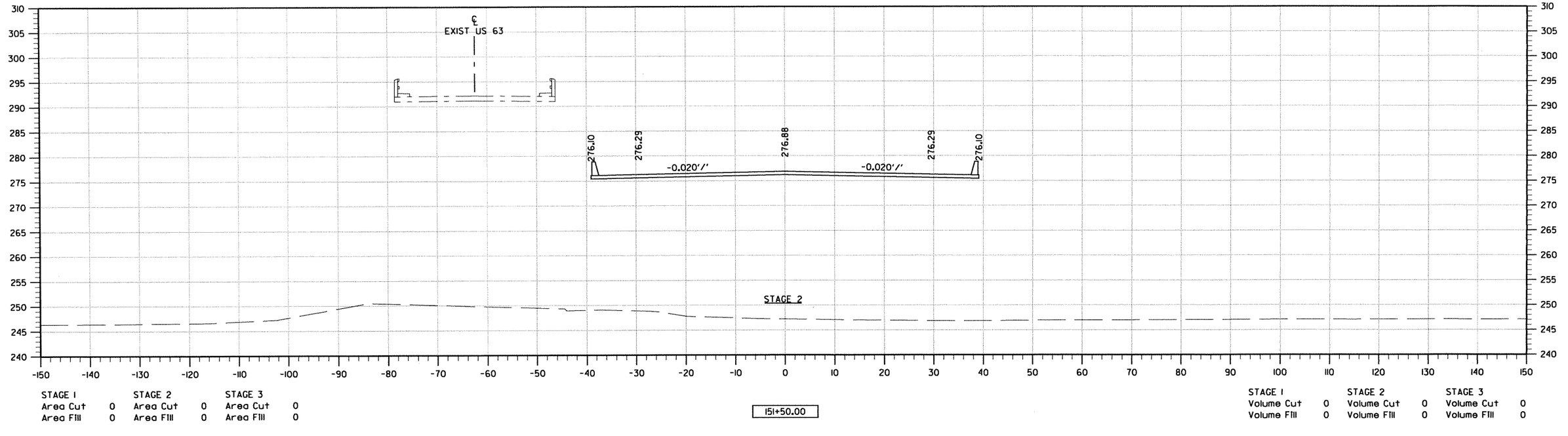
STA. 150+00.00 TO STA. 150+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS US 63

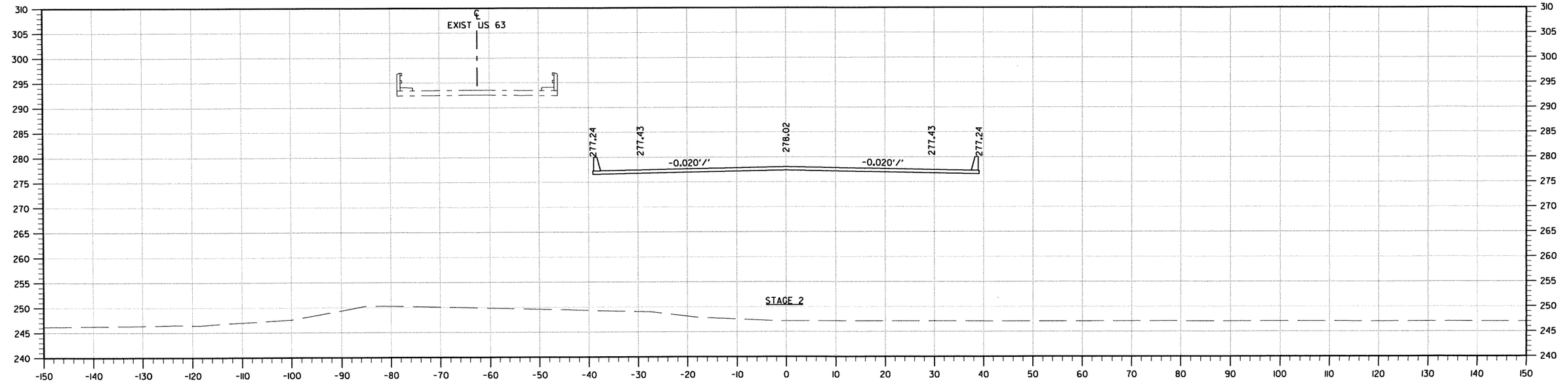
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STAGE 1		STAGE 2		STAGE 3	
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Area Fill	0	Area Fill	0	Area Fill	0

151+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

151+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

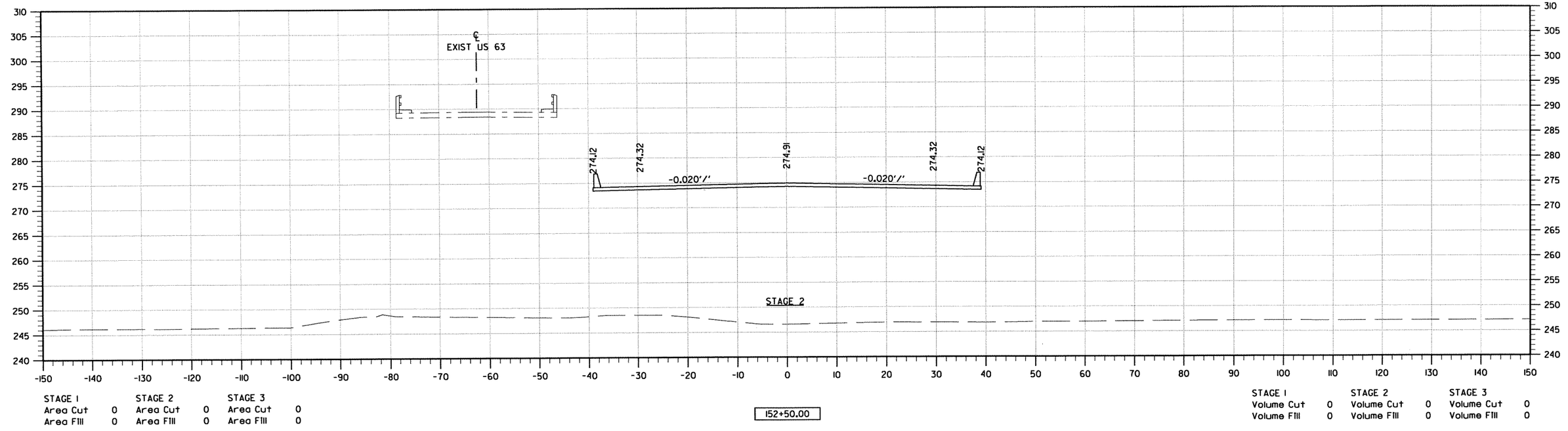
STA. 151+00.00 TO STA. 151+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS US 63

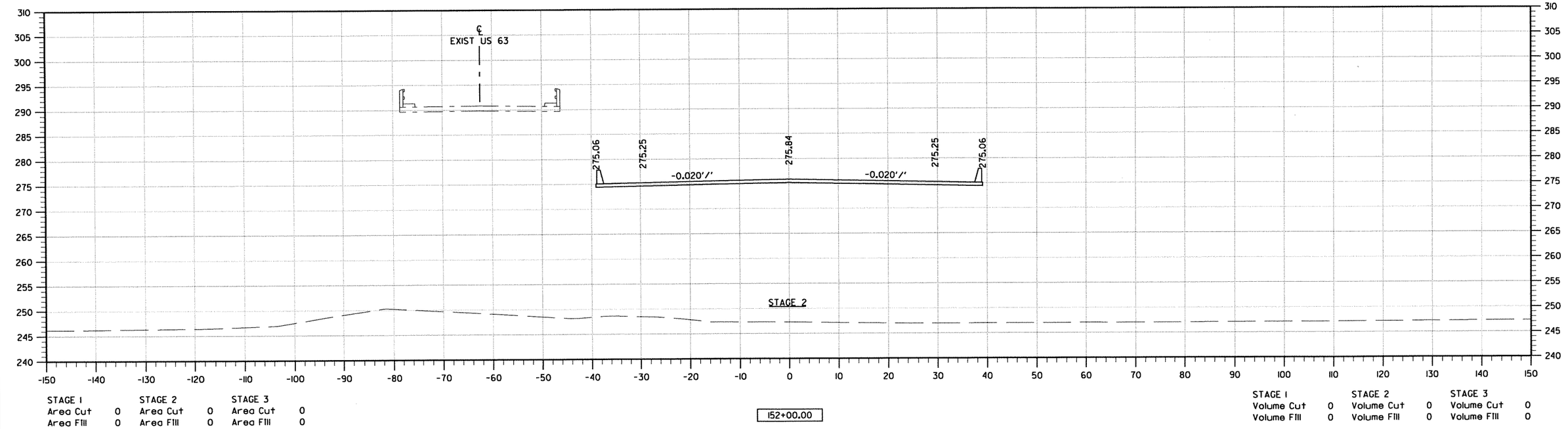
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STAGE 1		STAGE 2		STAGE 3	
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Area Fill	0	Area Fill	0	Area Fill	0

152+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

152+00.00

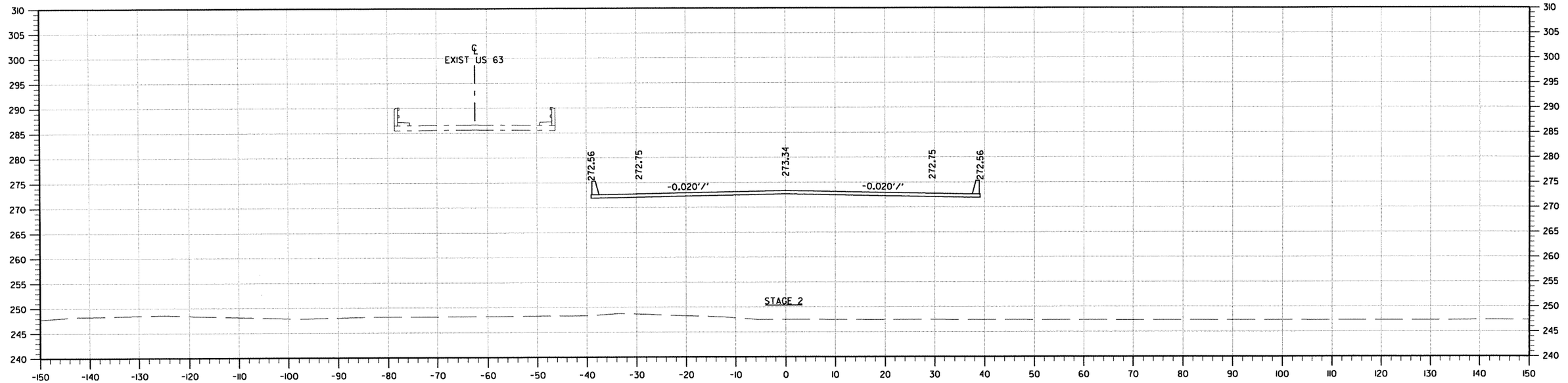
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 152+00.00 TO STA. 152+50.00

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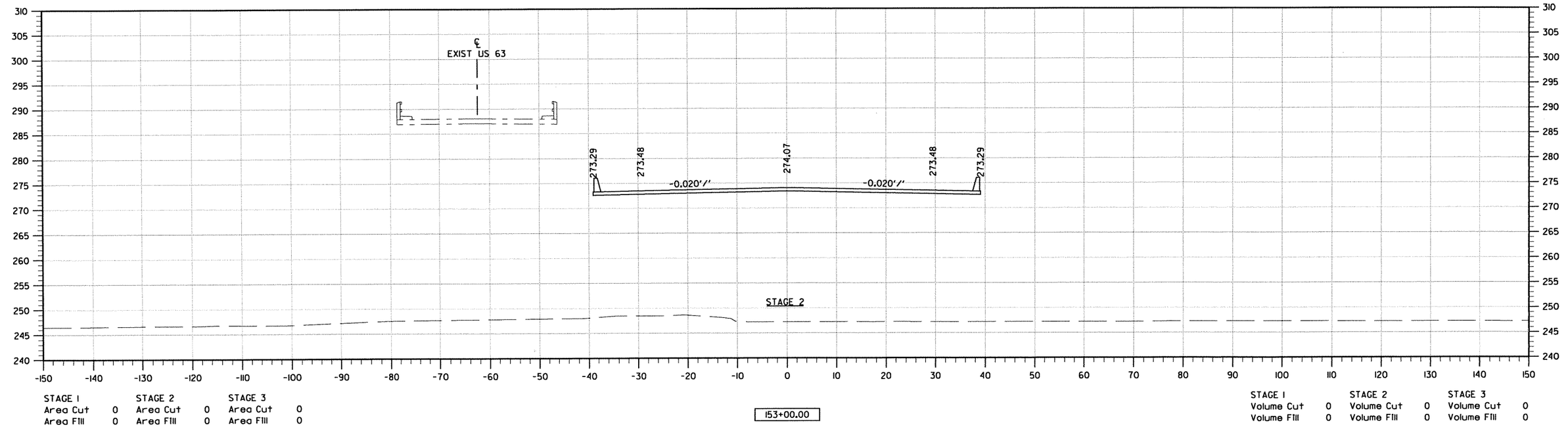
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	228	252

(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

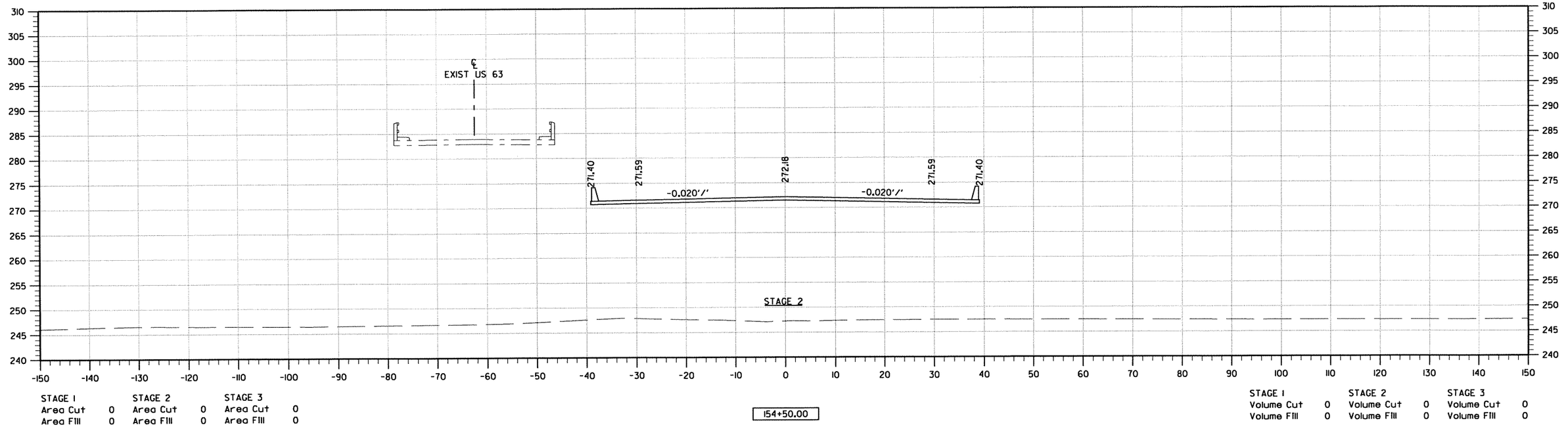
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 153+00.00 TO STA. 153+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	229	252

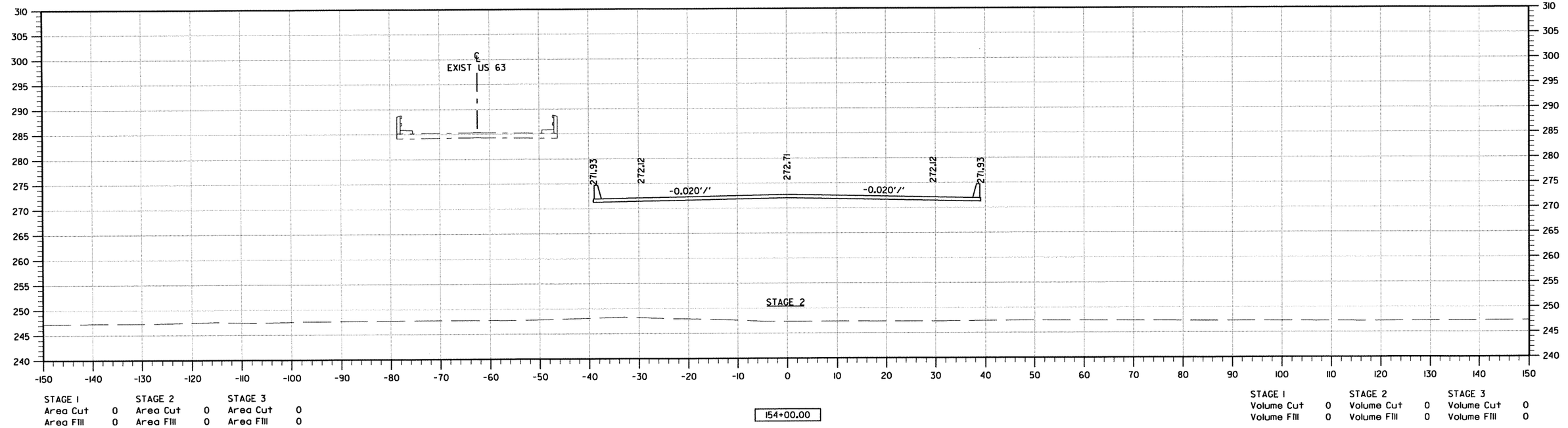
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

154+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

154+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

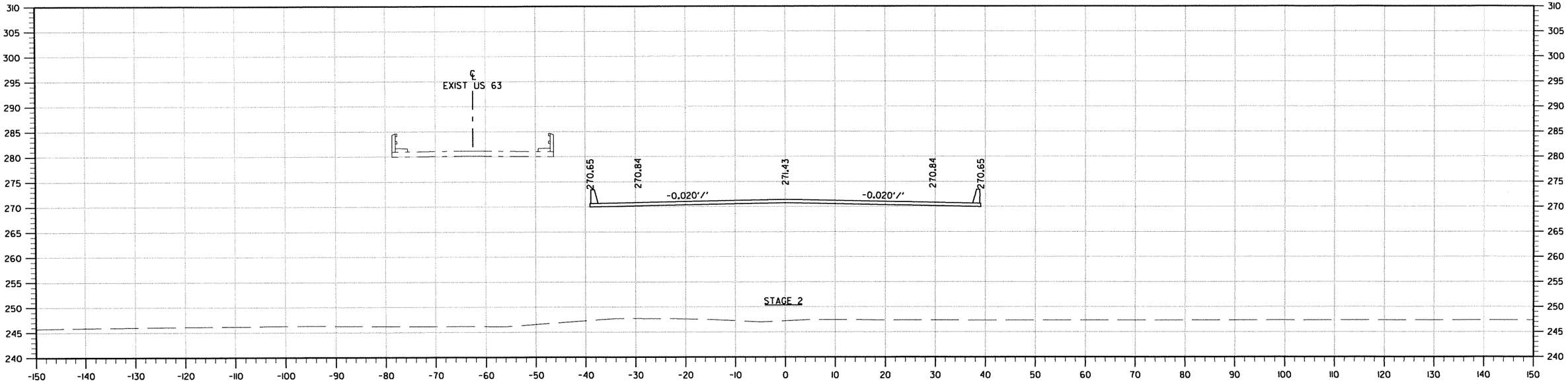
STA. 154+00.00 TO STA. 154+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	230	252

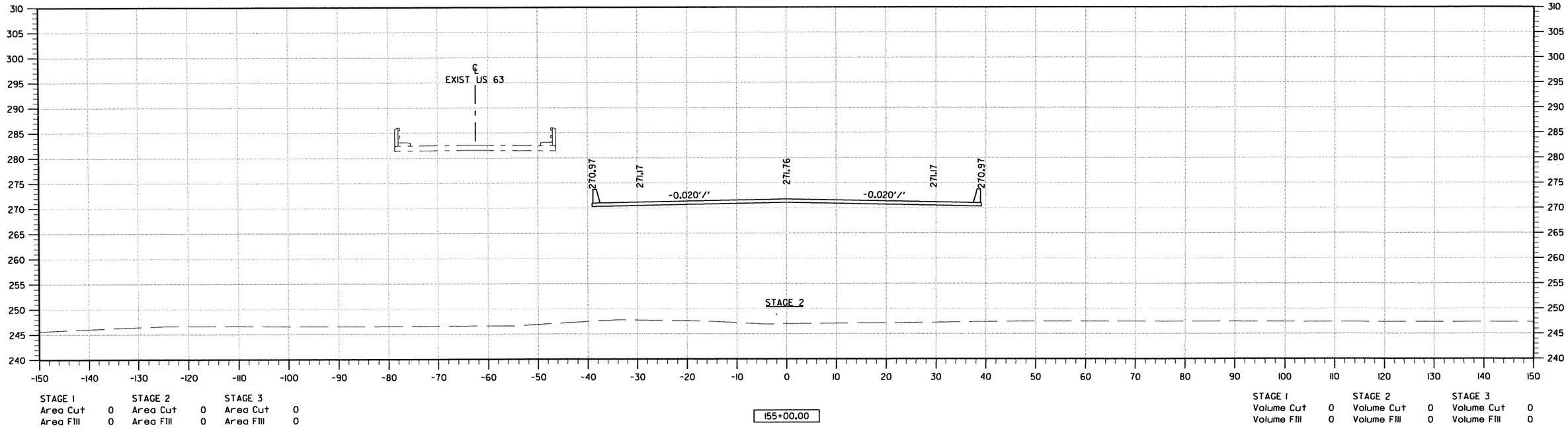
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

155+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

155+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

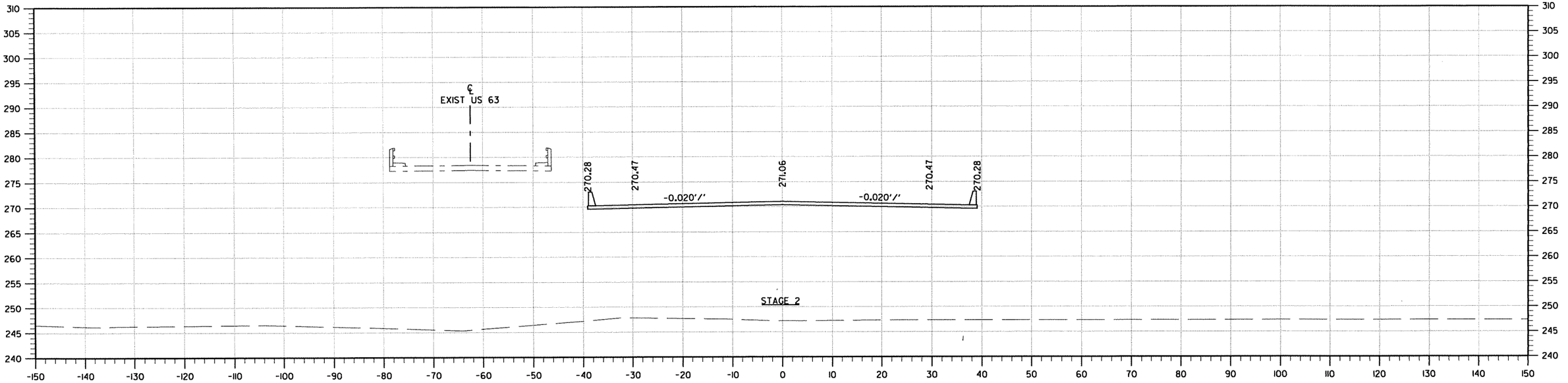
STA. 155+00.00 TO STA. 155+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	231	252

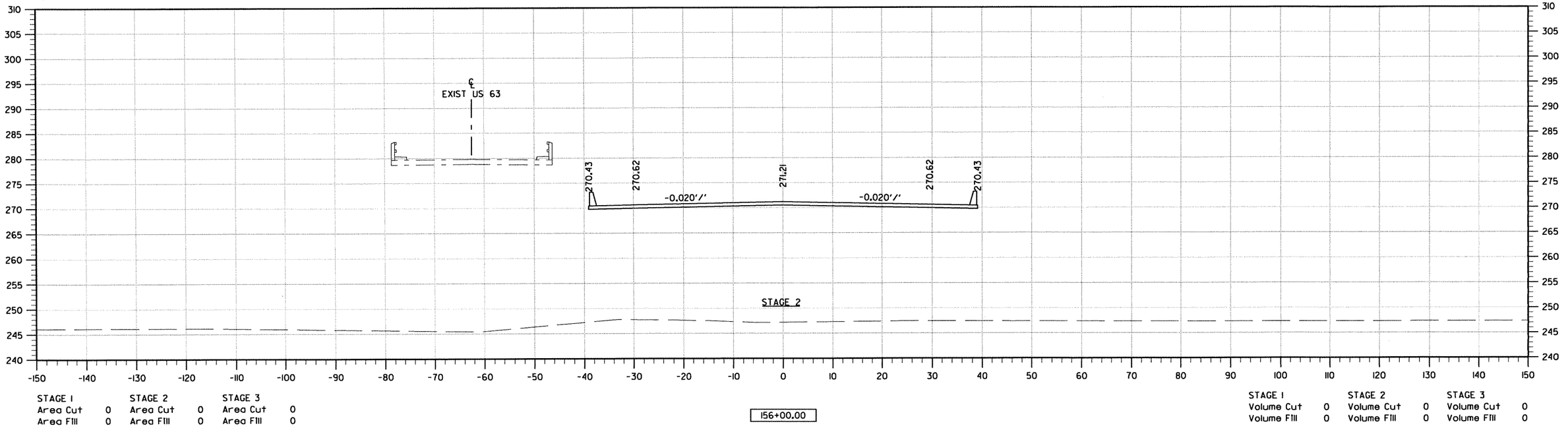
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

156+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

156+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 156+00.00 TO STA. 156+50.00

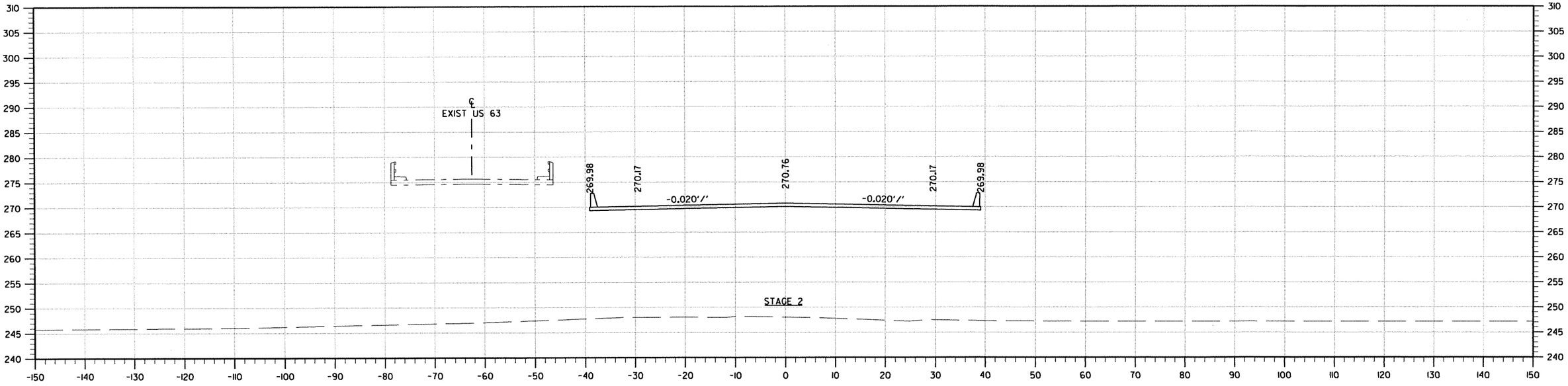
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	232	252

(2) CROSS SECTIONS US 63

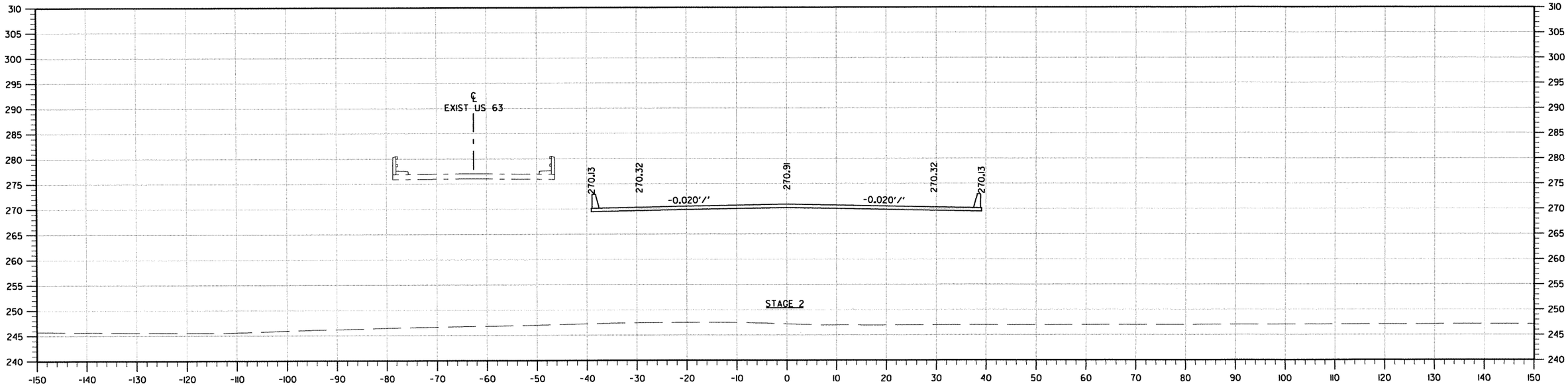
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

157+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

157+00.00

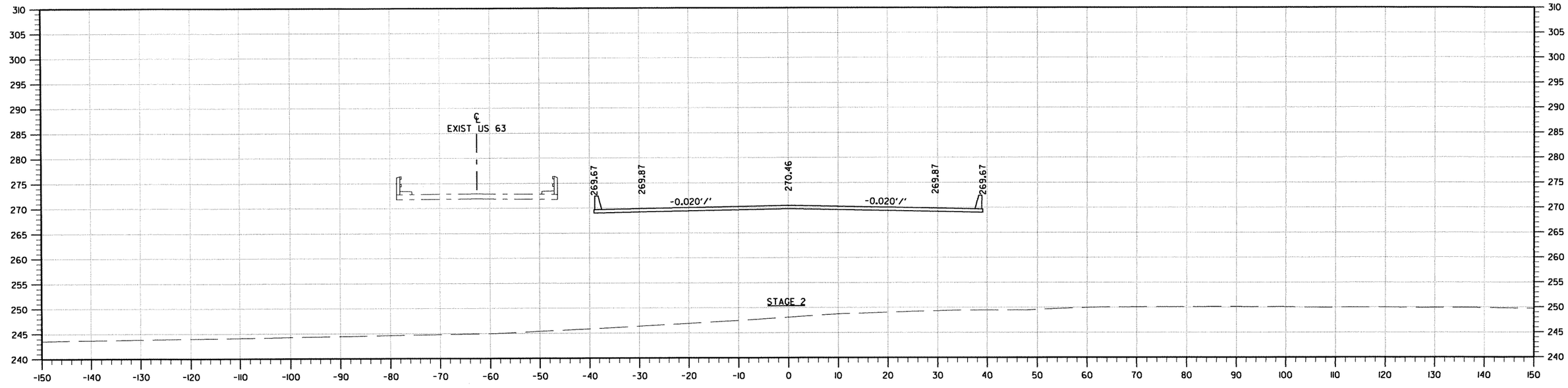
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 157+00.00 TO STA. 157+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	233	252

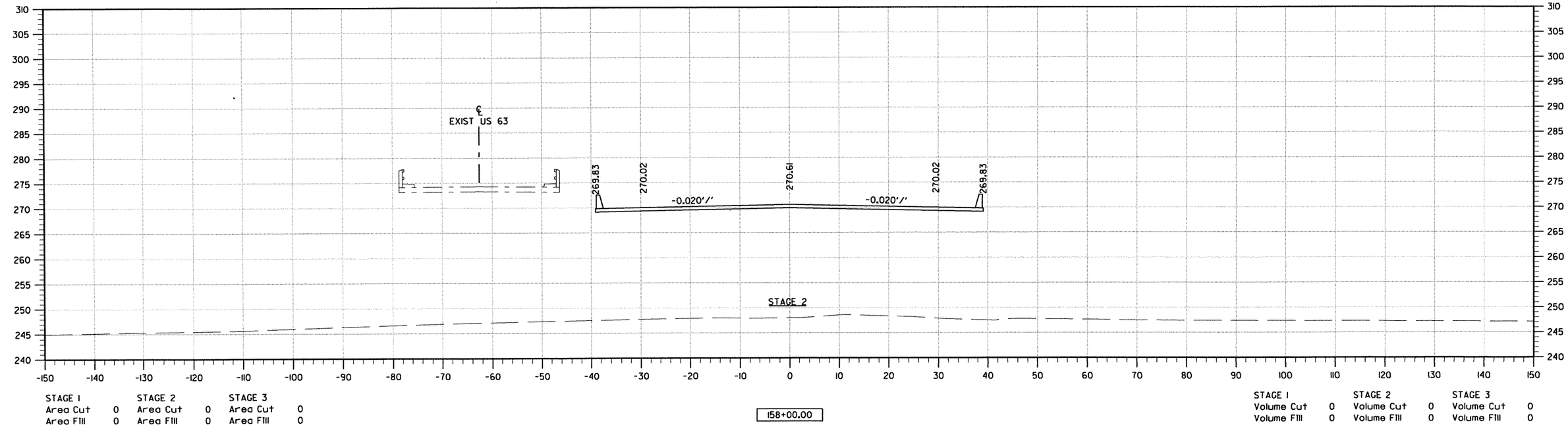
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

158+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

158+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 158+00.00 TO STA. 158+50.00

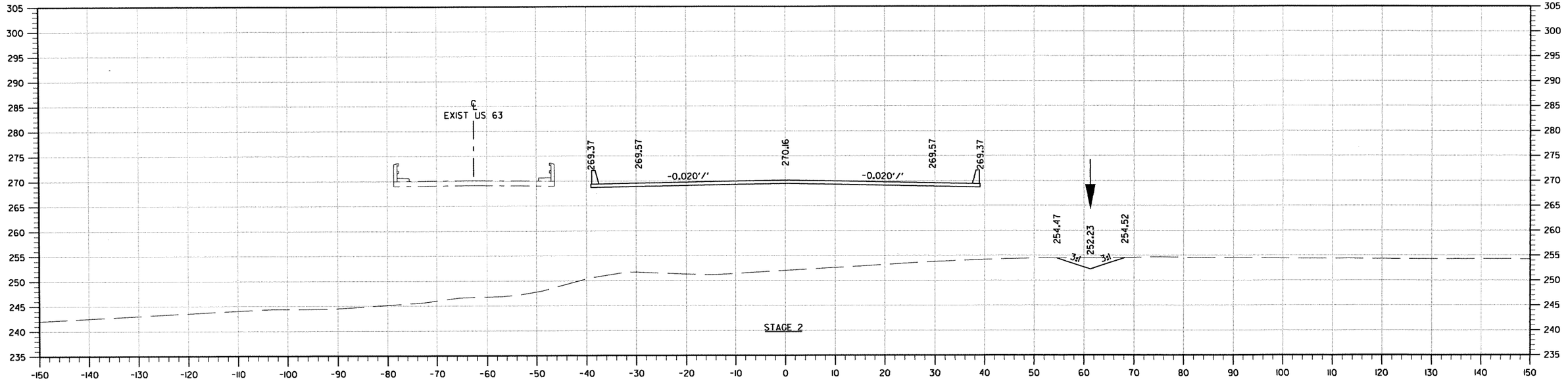
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	234	252

(2) CROSS SECTIONS US 63

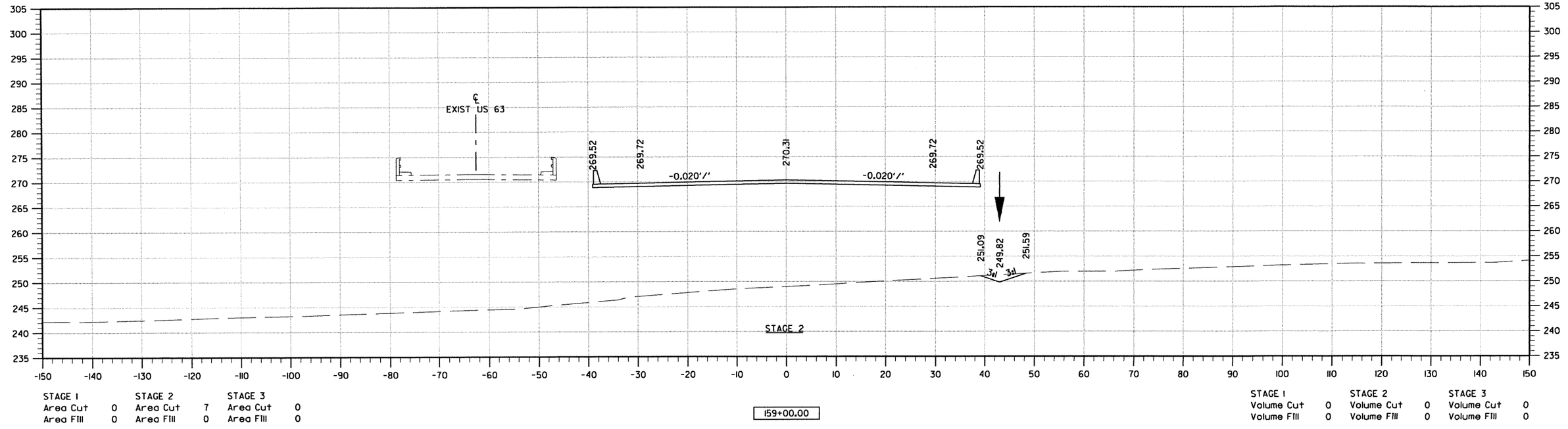
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	15	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

159+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	20	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	7	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

159+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

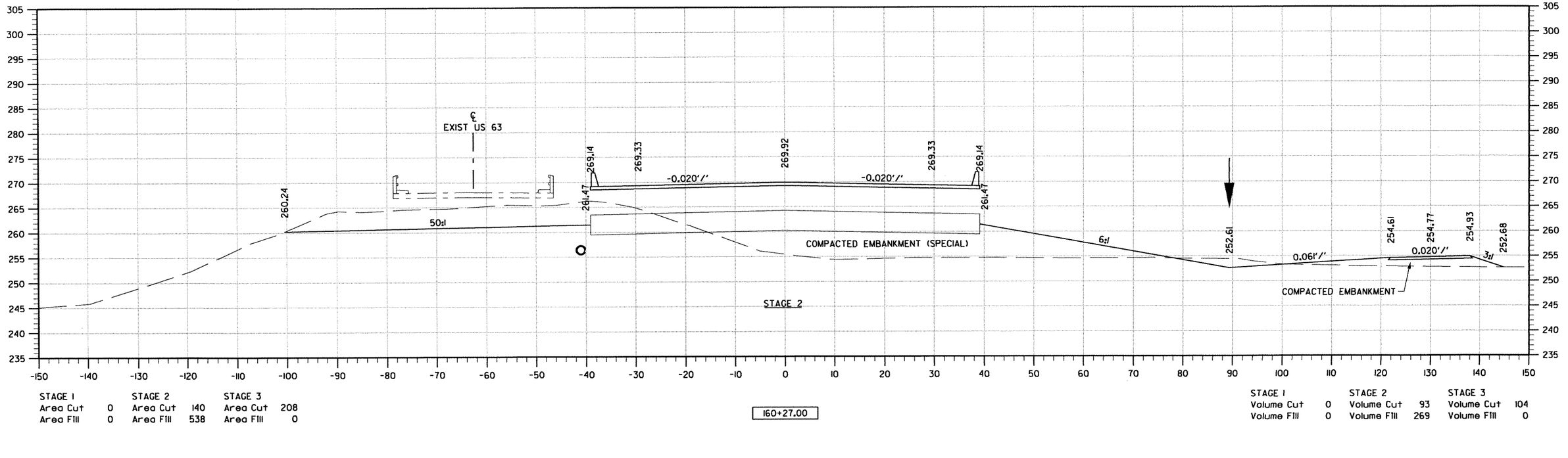
STA. 159+00.00 TO STA. 159+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	235	252

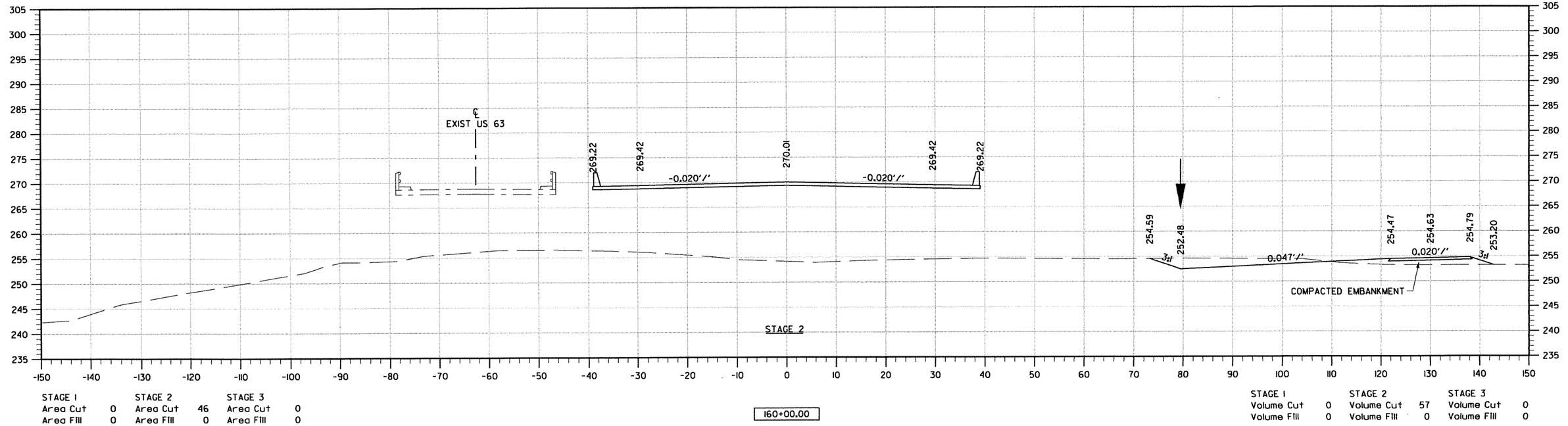
(2) CROSS SECTIONS US 63

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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	140	Area Cut	208
Area Fill	0	Area Fill	538	Area Fill	0

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	93	Volume Cut	104
Volume Fill	0	Volume Fill	269	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	46	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	57	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

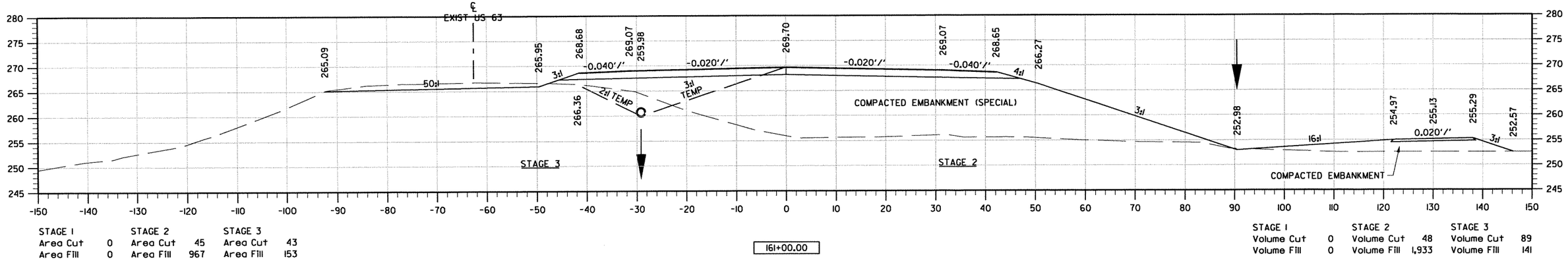
STA. 160+00.00 TO STA. 160+27.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	236	252

② CROSS SECTIONS US 63

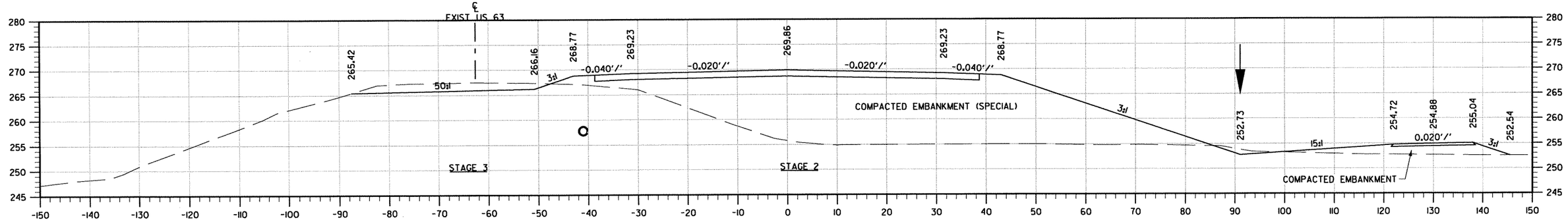
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	45	Area Cut	43
Area Fill	0	Area Fill	967	Area Fill	153

161+00.00

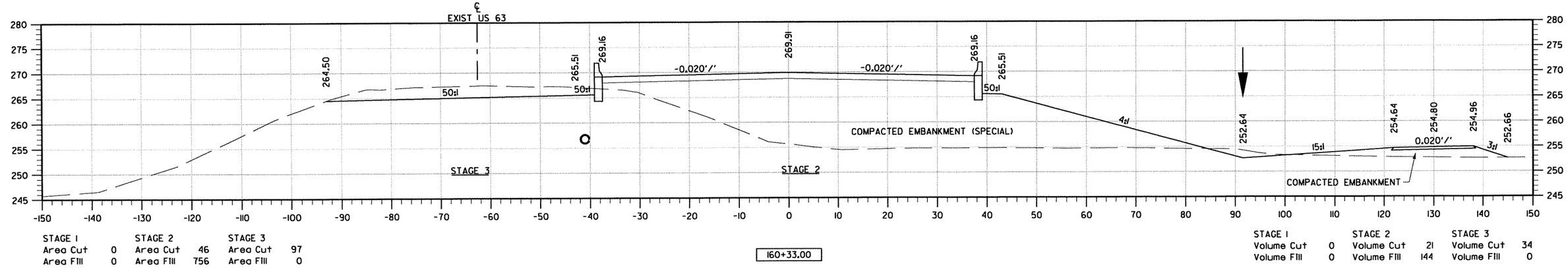
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	48	Volume Cut	89
Volume Fill	0	Volume Fill	1,933	Volume Fill	141



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	7	Area Cut	53
Area Fill	0	Area Fill	1,121	Area Fill	0

160+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	17	Volume Cut	47
Volume Fill	0	Volume Fill	591	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	46	Area Cut	97
Area Fill	0	Area Fill	756	Area Fill	0

160+33.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	21	Volume Cut	34
Volume Fill	0	Volume Fill	144	Volume Fill	0

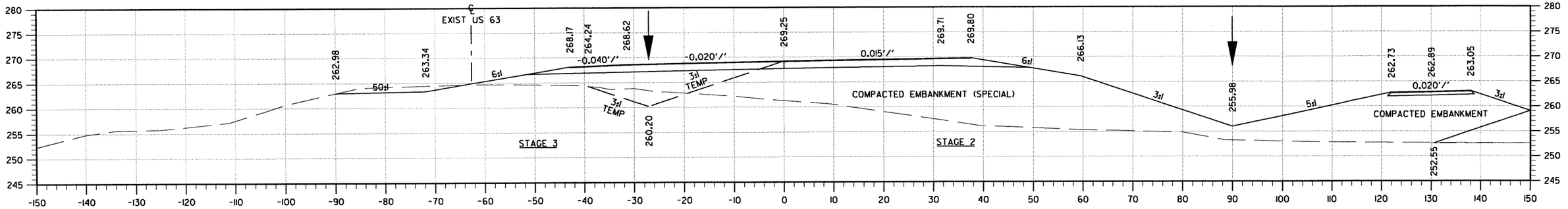
STA. 160+33.00 TO STA. 161+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	237	252

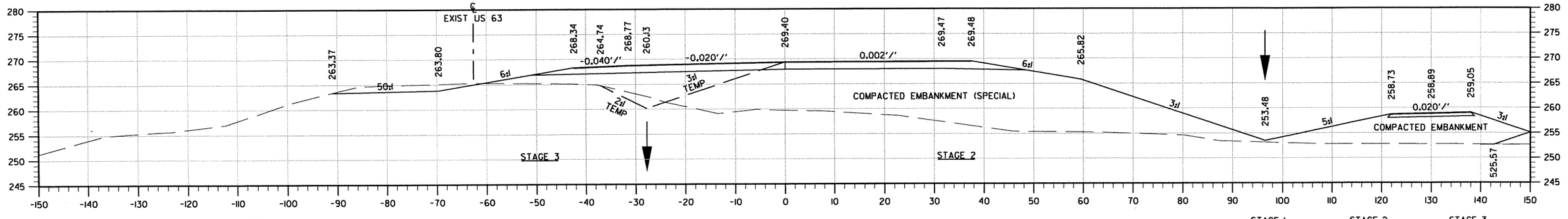
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	31	Area Cut	24
Area Fill	0	Area Fill	870	Area Fill	179

162+50.00

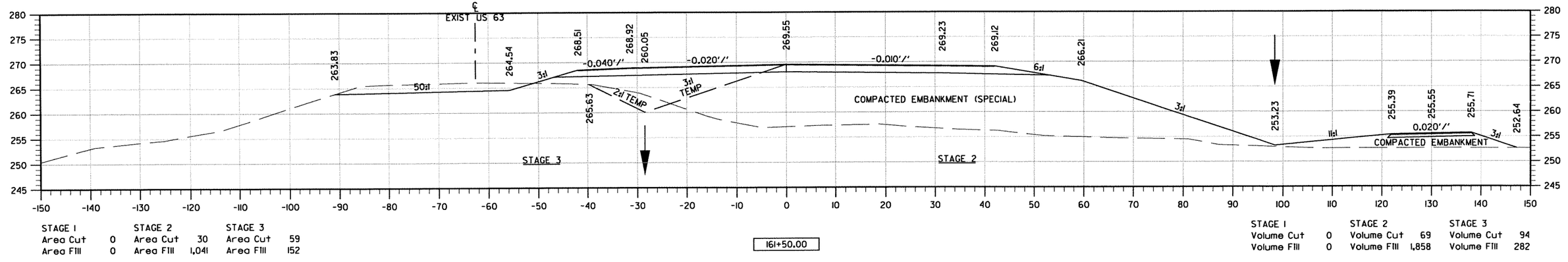
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	44	Volume Cut	53
Volume Fill	0	Volume Fill	1,672	Volume Fill	317



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	16	Area Cut	33
Area Fill	0	Area Fill	935	Area Fill	163

162+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	42	Volume Cut	85
Volume Fill	0	Volume Fill	1,830	Volume Fill	291



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	30	Area Cut	59
Area Fill	0	Area Fill	1,041	Area Fill	152

161+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	69	Volume Cut	94
Volume Fill	0	Volume Fill	1,858	Volume Fill	282

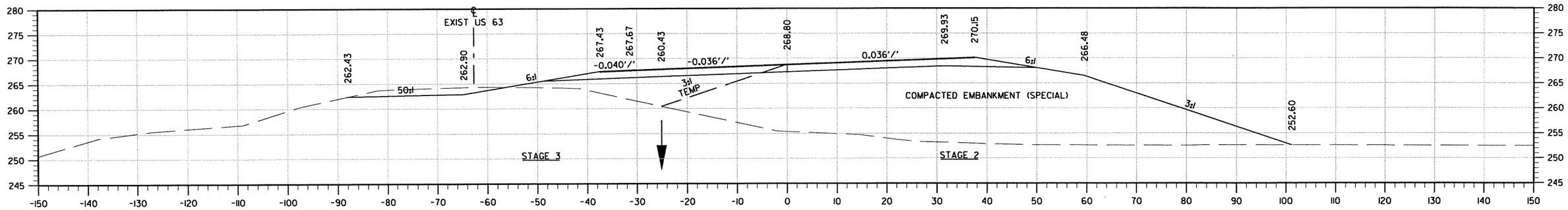
STA. 161+50.00 TO STA. 162+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	238	252

(2) CROSS SECTIONS US 63

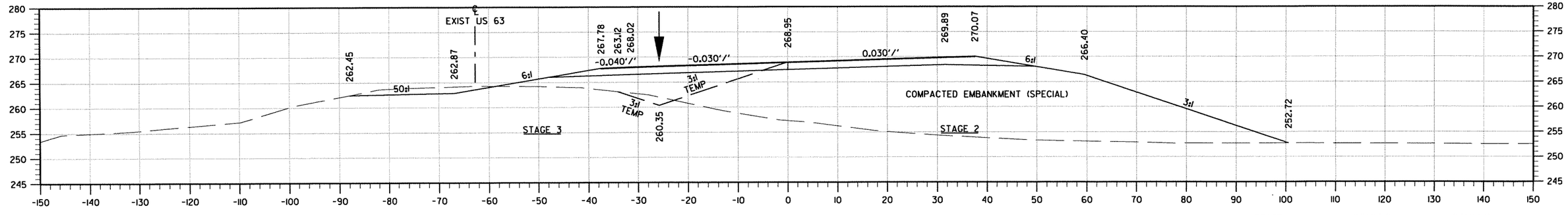
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	35
Area Fill	0	Area Fill	1,311	Area Fill	140

164+00.00

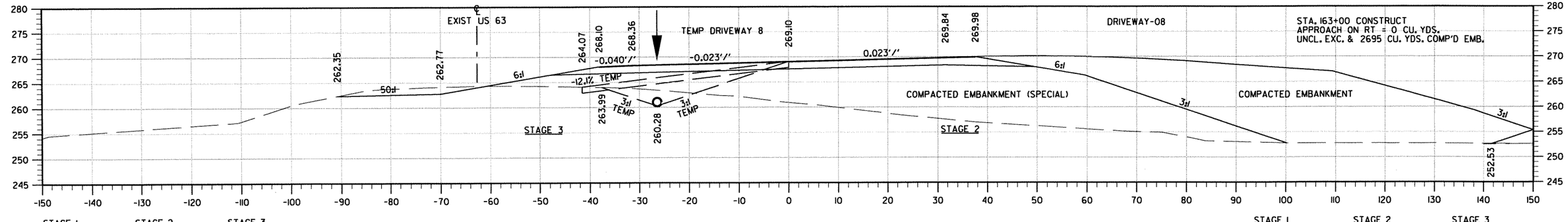
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	9	Volume Cut	61
Volume Fill	0	Volume Fill	2,327	Volume Fill	269



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	10	Area Cut	30
Area Fill	0	Area Fill	1,202	Area Fill	151

163+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	41	Volume Cut	100
Volume Fill	0	Volume Fill	1,970	Volume Fill	297



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	34	Area Cut	78
Area Fill	0	Area Fill	925	Area Fill	170

163+00.00

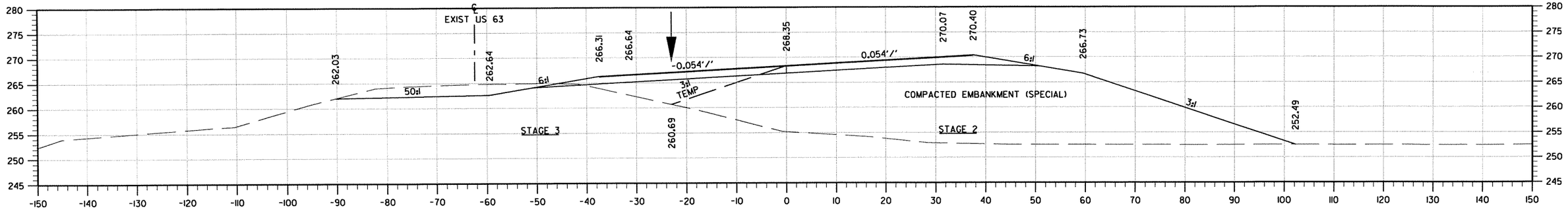
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	60	Volume Cut	95
Volume Fill	0	Volume Fill	1,662	Volume Fill	323

STA. 163+00.00 TO STA. 164+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	239	252

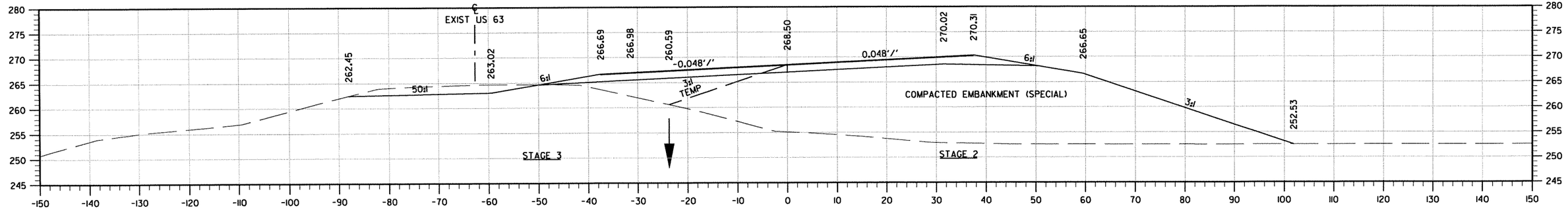
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	77
Area Fill	0	Area Fill	1,316	Area Fill	87

165+50.00

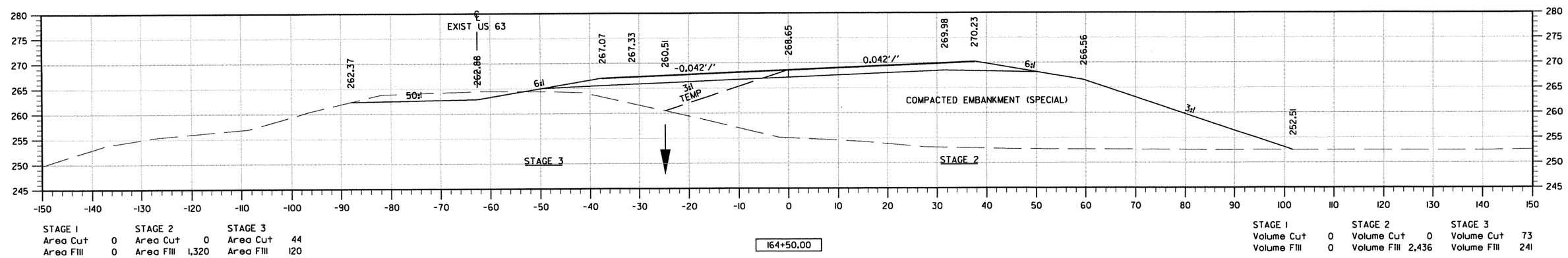
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	118
Volume Fill	0	Volume Fill	2,445	Volume Fill	175



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	51
Area Fill	0	Area Fill	1,325	Area Fill	102

165+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	88
Volume Fill	0	Volume Fill	2,449	Volume Fill	206



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	44
Area Fill	0	Area Fill	1,320	Area Fill	120

164+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	73
Volume Fill	0	Volume Fill	2,436	Volume Fill	241

STA. 164+50.00 TO STA. 165+50.00

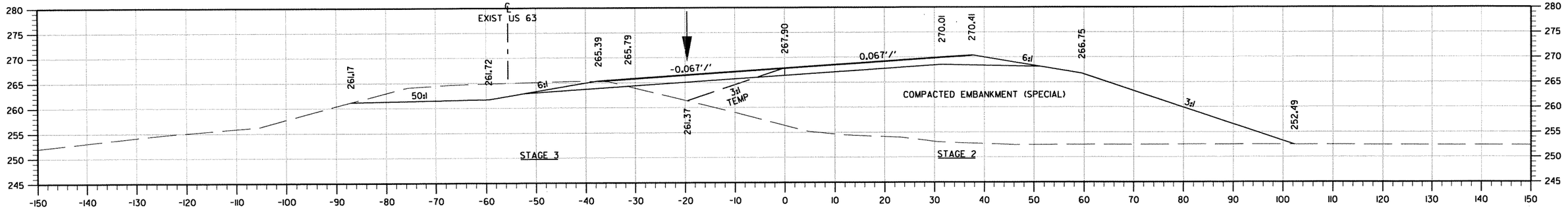
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	240	252

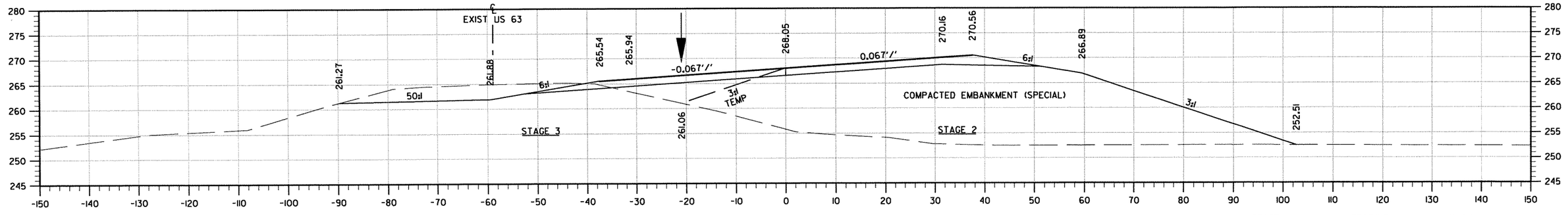
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	119
Area Fill	0	Area Fill	1,259	Area Fill	48

167+00.00

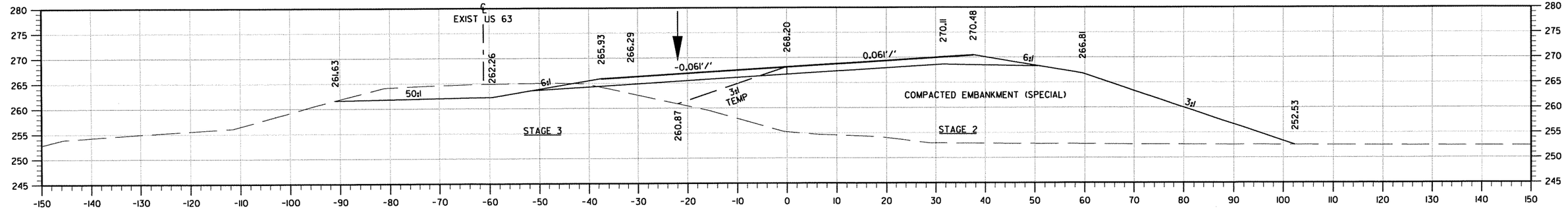
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	217
Volume Fill	0	Volume Fill	2,365	Volume Fill	100



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	116
Area Fill	0	Area Fill	1,295	Area Fill	60

166+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	199
Volume Fill	0	Volume Fill	2,401	Volume Fill	124



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	99
Area Fill	0	Area Fill	1,298	Area Fill	74

166+00.00

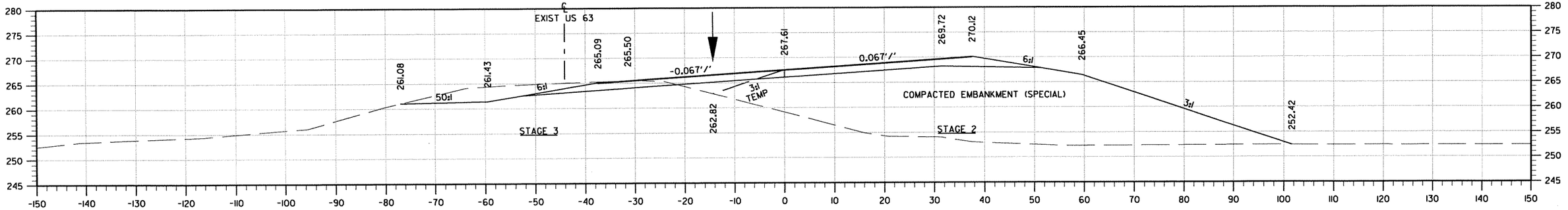
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	163
Volume Fill	0	Volume Fill	2,421	Volume Fill	149

STA. 166+00.00 TO STA. 167+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	241	252

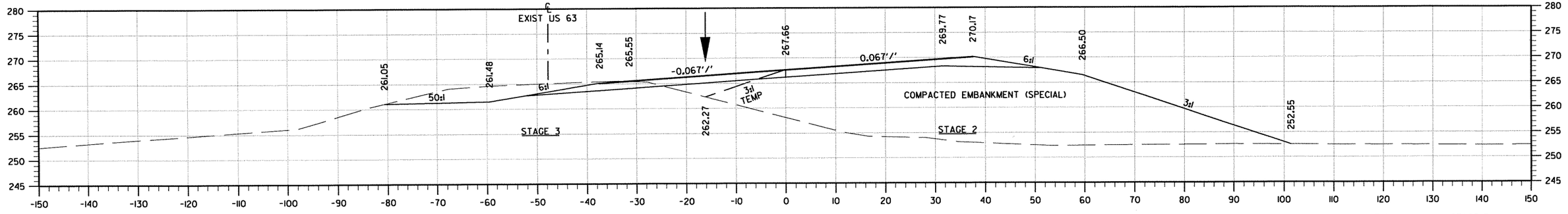
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	101
Area Fill	0	Area Fill	1,139	Area Fill	19

168+50.00

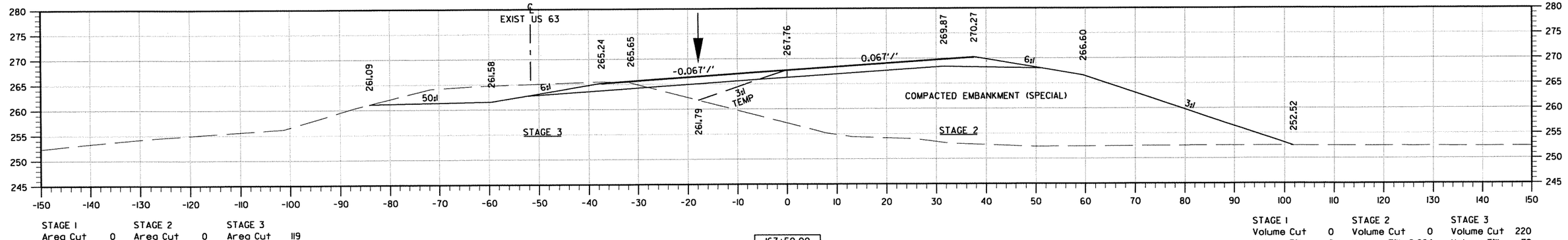
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	197
Volume Fill	0	Volume Fill	2,142	Volume Fill	42



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	111
Area Fill	0	Area Fill	1,174	Area Fill	27

168+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	213
Volume Fill	0	Volume Fill	2,215	Volume Fill	59



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	119
Area Fill	0	Area Fill	1,218	Area Fill	37

167+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	220
Volume Fill	0	Volume Fill	2,294	Volume Fill	79

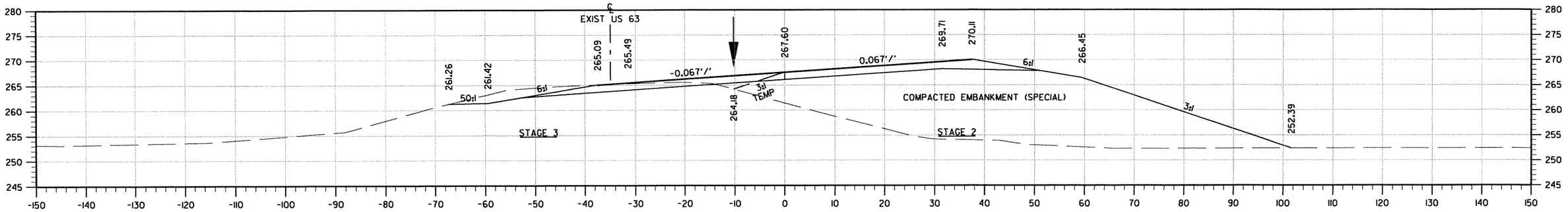
STA. 167+50.00 TO STA. 168+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	242	252

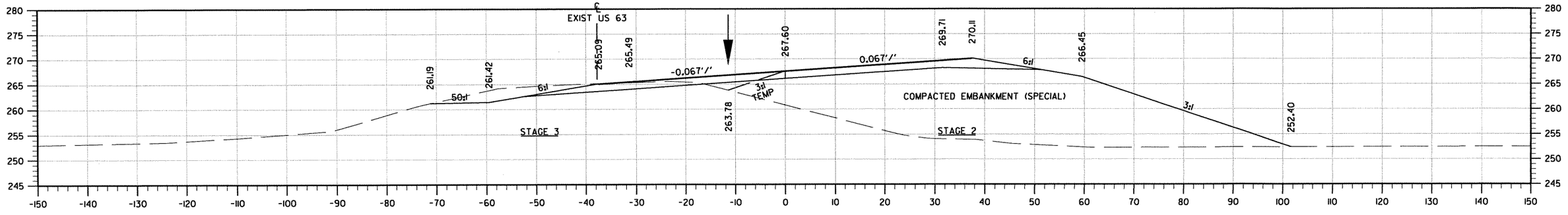
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	72
Area Fill	0	Area Fill	1,035	Area Fill	5

170+00.00

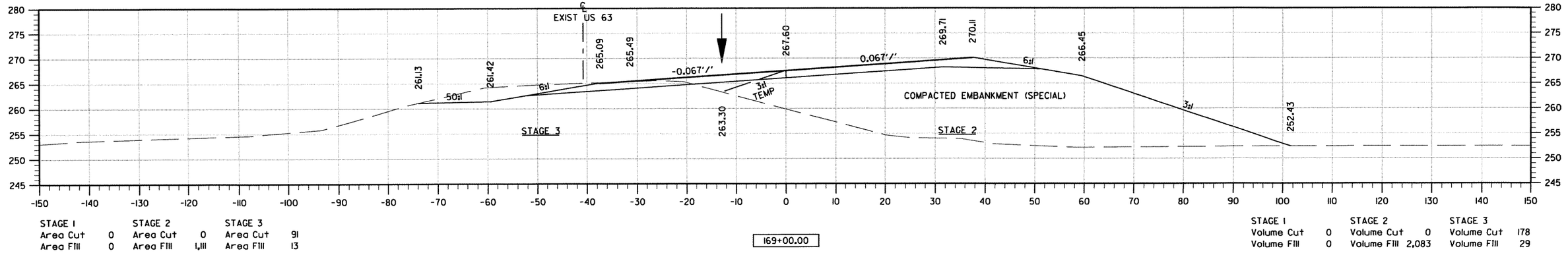
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	142
Volume Fill	0	Volume Fill	1,946	Volume Fill	12



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	82
Area Fill	0	Area Fill	1,067	Area Fill	8

169+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	161
Volume Fill	0	Volume Fill	2,016	Volume Fill	19



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	91
Area Fill	0	Area Fill	1,111	Area Fill	13

169+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	178
Volume Fill	0	Volume Fill	2,083	Volume Fill	29

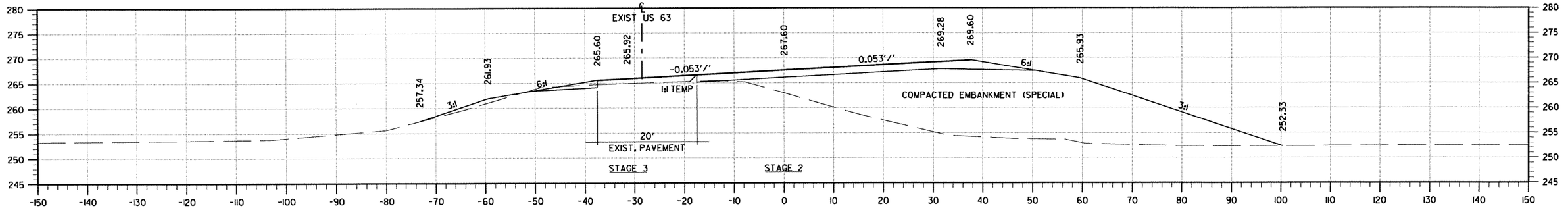
STA. 169+00.00 TO STA. 170+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	243	252

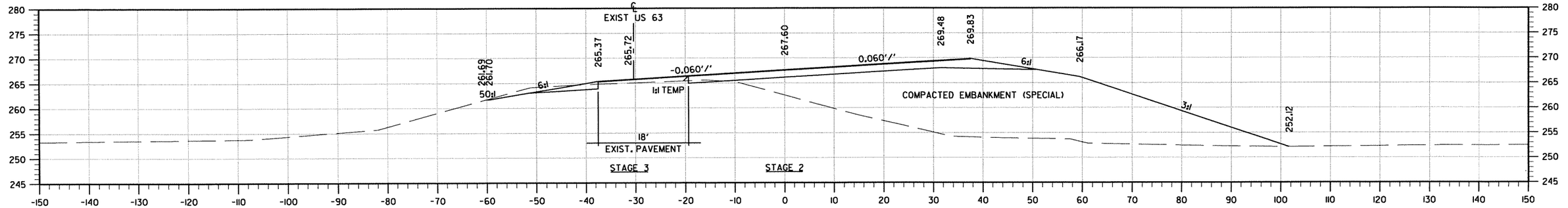
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	1	Area Cut	9
Area Fill	0	Area Fill	921	Area Fill	10

171+50.00

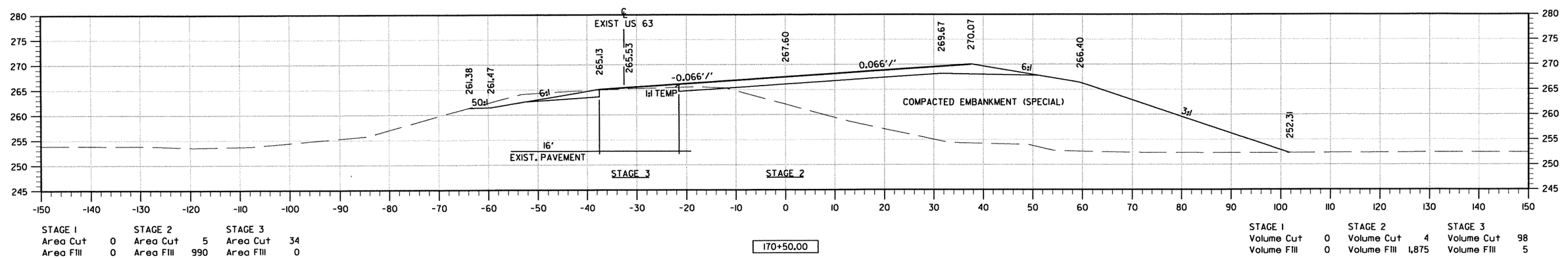
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	3	Volume Cut	26
Volume Fill	0	Volume Fill	1,734	Volume Fill	9



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2	Area Cut	20
Area Fill	0	Area Fill	951	Area Fill	0

171+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	7	Volume Cut	50
Volume Fill	0	Volume Fill	1,798	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	5	Area Cut	34
Area Fill	0	Area Fill	990	Area Fill	0

170+50.00

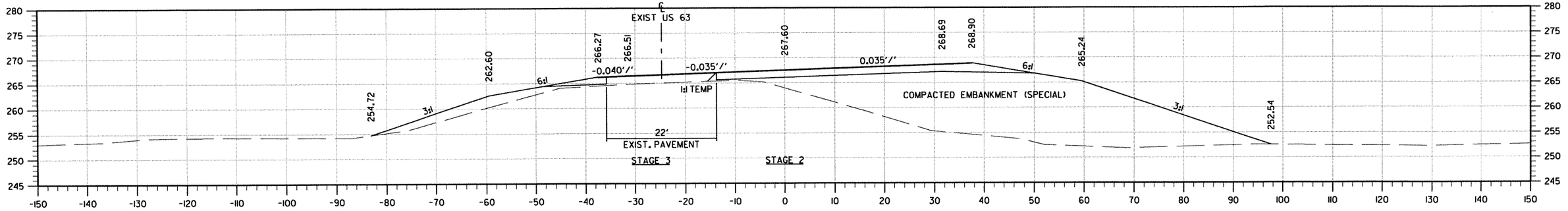
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	4	Volume Cut	98
Volume Fill	0	Volume Fill	1,875	Volume Fill	5

STA. 170+50.00 TO STA. 171+50.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	244	252

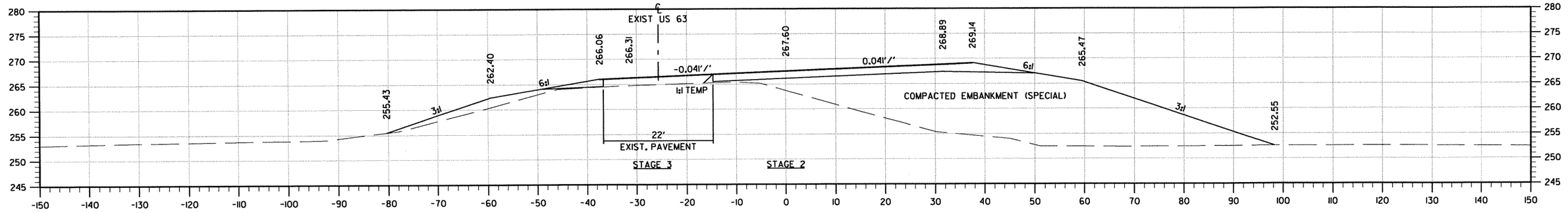
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	2
Area Fill	0	Area Fill	856	Area Fill	63

173+00.00

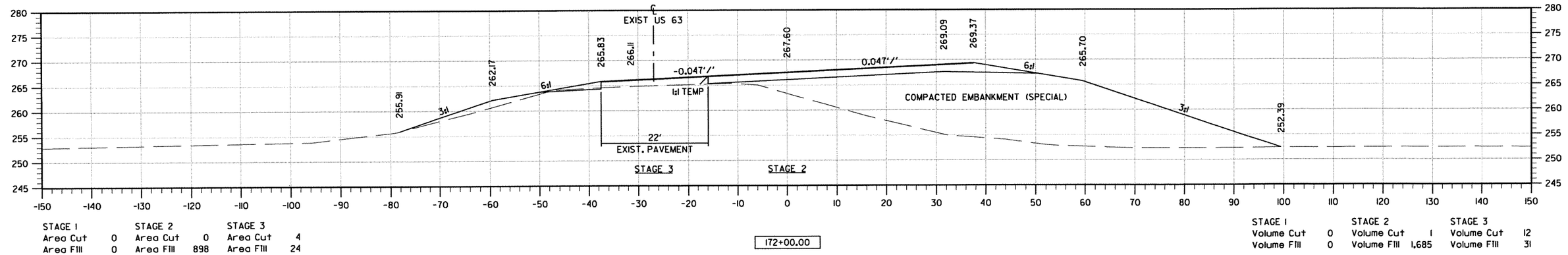
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	3
Volume Fill	0	Volume Fill	1,600	Volume Fill	97



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	2
Area Fill	0	Area Fill	871	Area Fill	43

172+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	5
Volume Fill	0	Volume Fill	1,638	Volume Fill	61



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	4
Area Fill	0	Area Fill	898	Area Fill	24

172+00.00

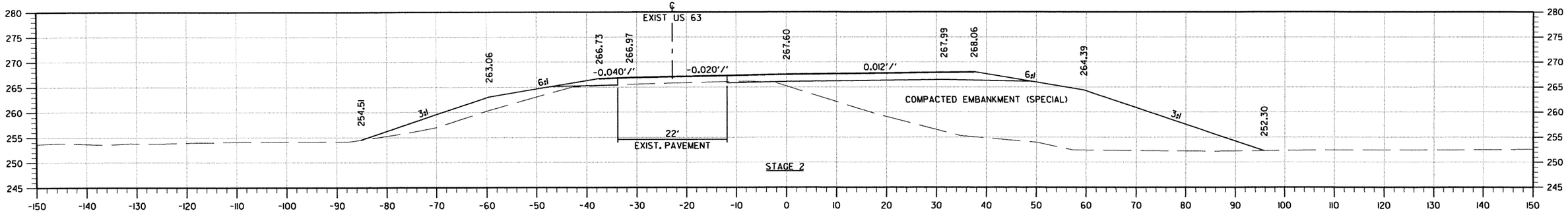
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	1	Volume Cut	12
Volume Fill	0	Volume Fill	1,685	Volume Fill	31

STA. 172+00.00 TO STA. 173+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	245	252

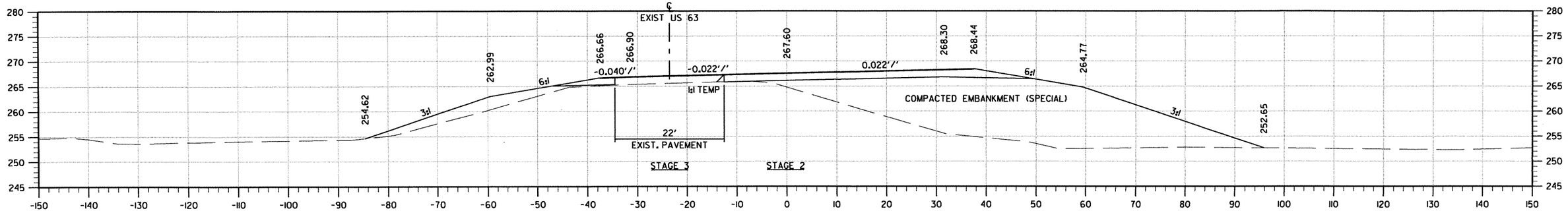
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	1	Area Cut	0
Area Fill	0	Area Fill	809	Area Fill	0

174+50.00

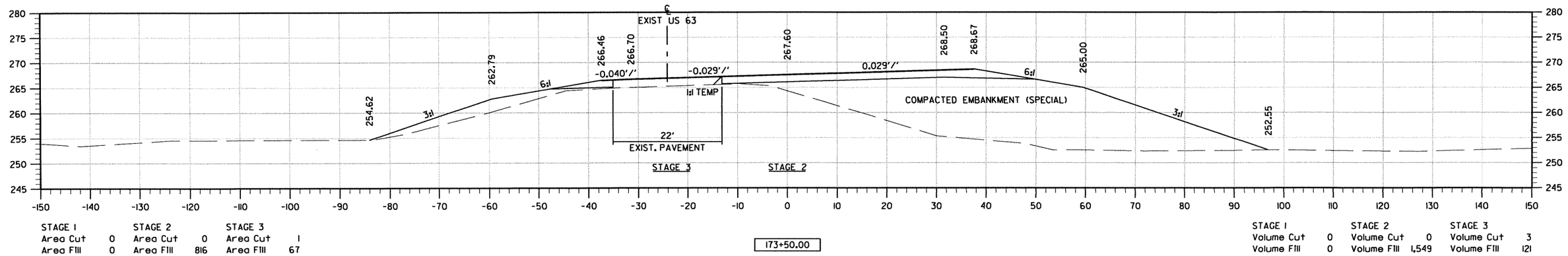
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2	Volume Cut	1
Volume Fill	0	Volume Fill	1,459	Volume Fill	66



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	1
Area Fill	0	Area Fill	766	Area Fill	71

174+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	2
Volume Fill	0	Volume Fill	1,465	Volume Fill	128



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	1
Area Fill	0	Area Fill	816	Area Fill	67

173+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	3
Volume Fill	0	Volume Fill	1,549	Volume Fill	121

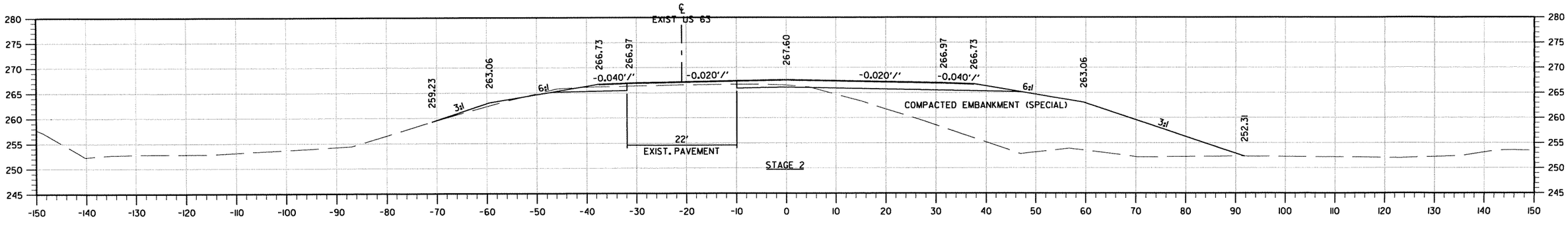
STA. 173+50.00 TO STA. 174+50.00

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				6	ARK.			
				JOB NO.		100687	246	252

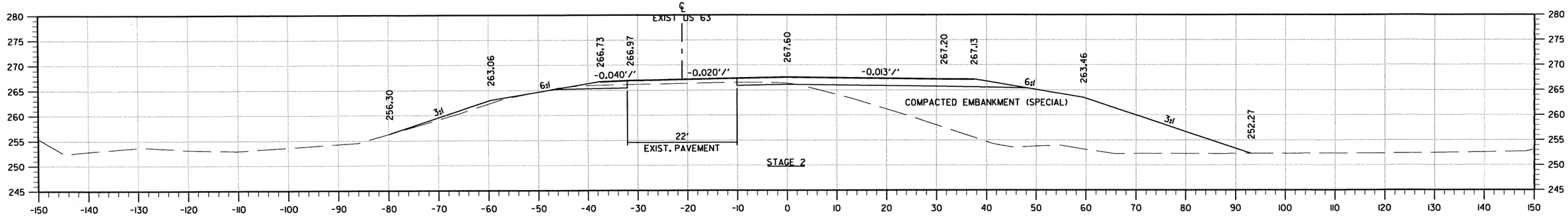
(2) CROSS SECTIONS US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	21	Area Cut	0
Area Fill	0	Area Fill	553	Area Fill	0

175+80.00

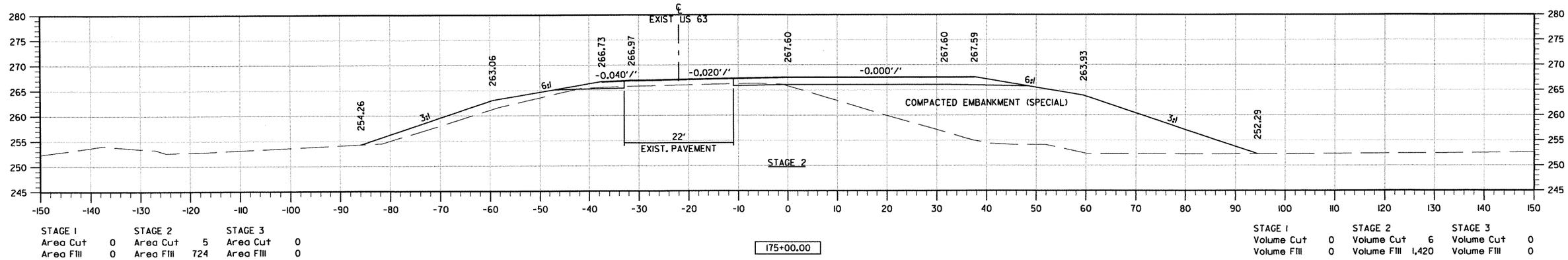
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	19	Volume Cut	0
Volume Fill	0	Volume Fill	644	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	14	Area Cut	0
Area Fill	0	Area Fill	605	Area Fill	0

175+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	17	Volume Cut	0
Volume Fill	0	Volume Fill	1,231	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	5	Area Cut	0
Area Fill	0	Area Fill	724	Area Fill	0

175+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	6	Volume Cut	0
Volume Fill	0	Volume Fill	1,420	Volume Fill	0

STA. 175+00.00 TO STA. 175+80.00

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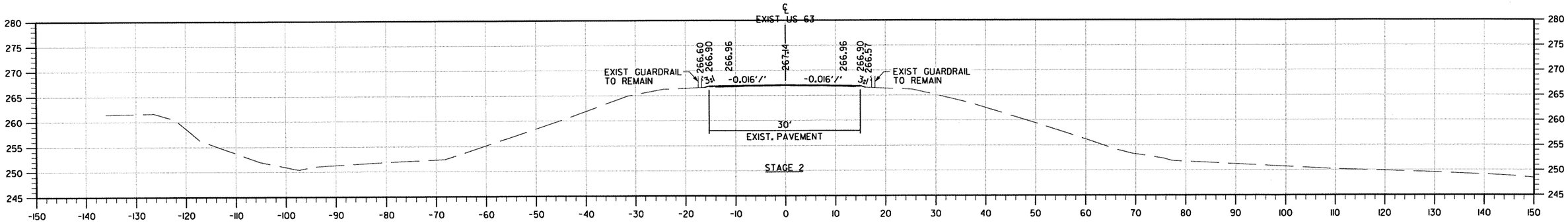
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	247	252

(2) CROSS SECTIONS US 63

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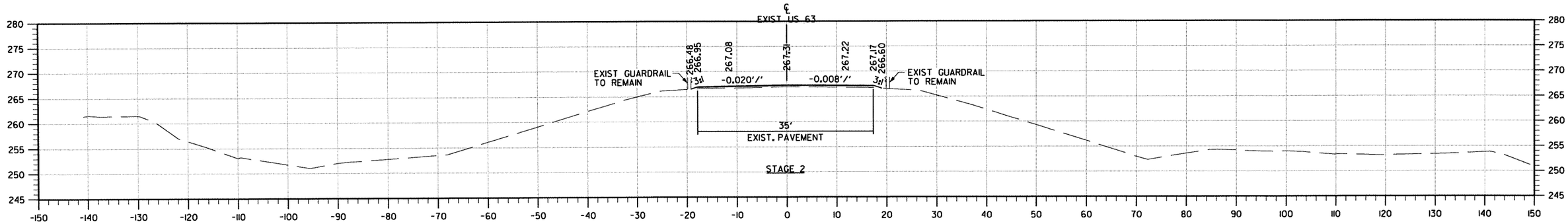
NOTE: CROSS SECTIONS CUT ALONG CENTERLINE EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

177+00.00

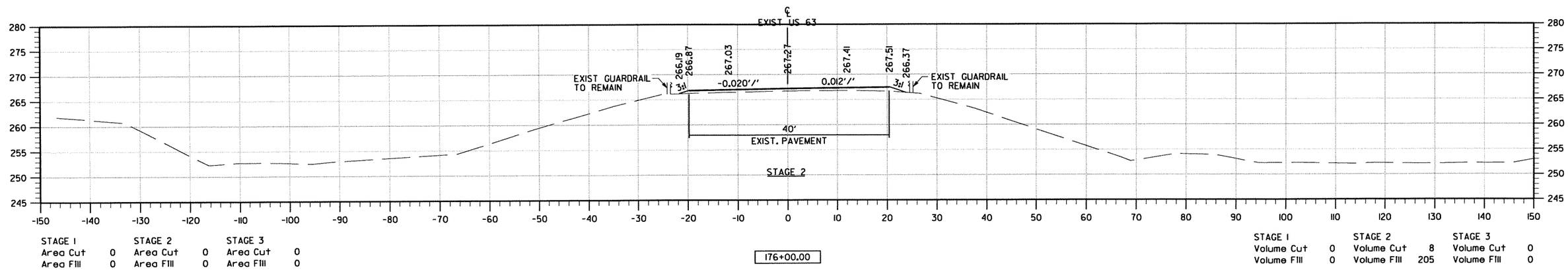
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

176+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

176+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	8	Volume Cut	0
Volume Fill	0	Volume Fill	205	Volume Fill	0

STA. 176+00.00 TO STA. 177+00.00

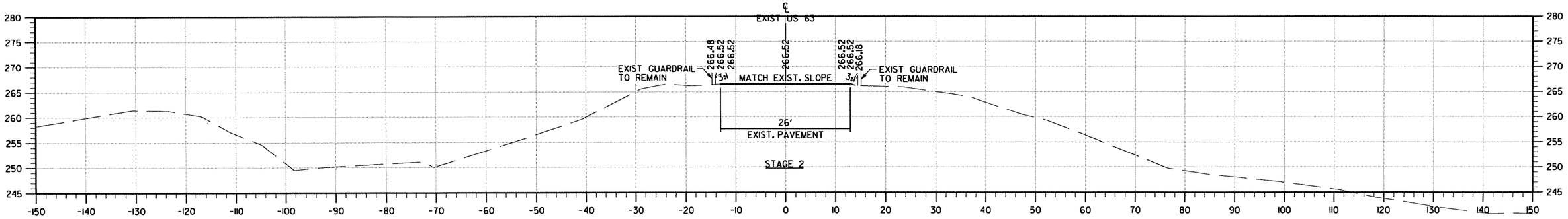
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				6	ARK.			
				JOB NO.		100687	248	252

(2) CROSS SECTIONS US 63

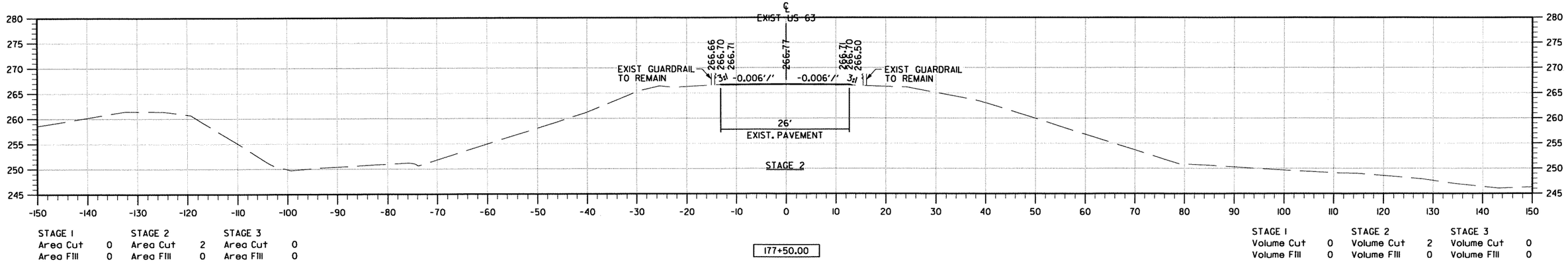
NOTE: CROSS SECTIONS CUT ALONG CENTERLINE EXIST US 63



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	4	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

177+80.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	3	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	2	Area Cut	0
Area Fill	0	Area Fill	0	Area Fill	0

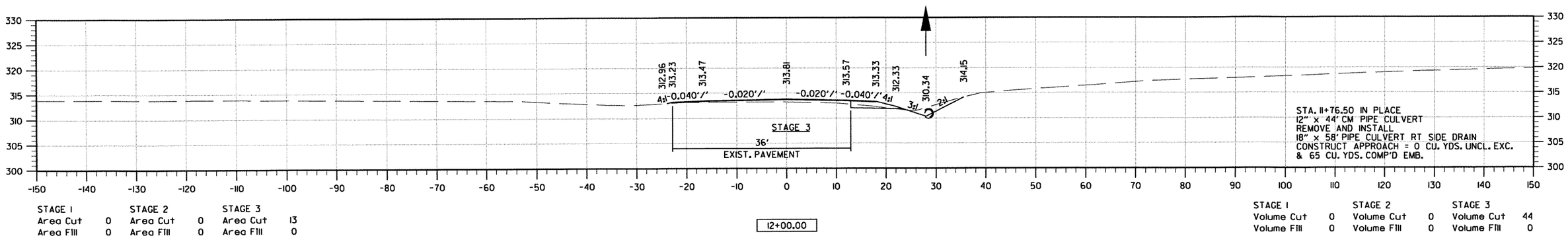
177+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	2	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 177+50.00 TO STA. 177+80.00

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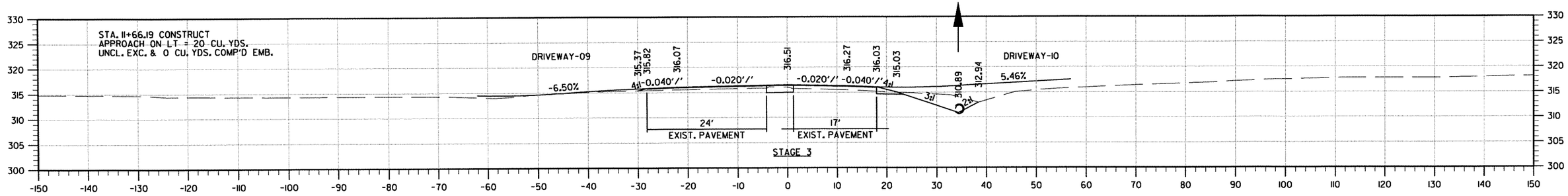
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	249	252
				②	CROSS SECTIONS 3rd St			



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	13
Area Fill	0	Area Fill	0	Area Fill	0

12+00.00

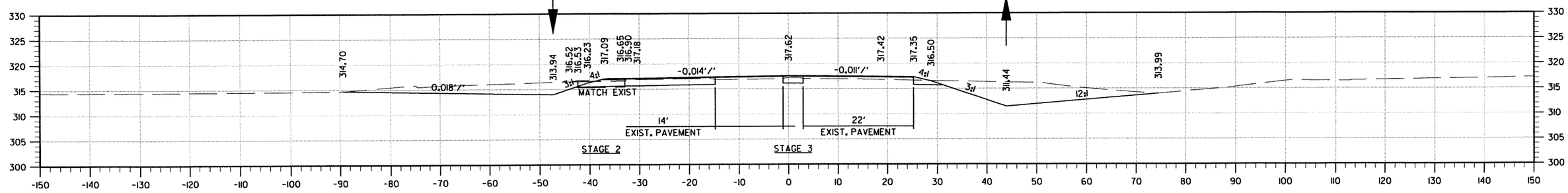
STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	44
Volume Fill	0	Volume Fill	0	Volume Fill	0



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	35
Area Fill	0	Area Fill	0	Area Fill	0

11+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	13	Volume Cut	239
Volume Fill	0	Volume Fill	0	Volume Fill	1



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	14	Area Cut	223
Area Fill	0	Area Fill	0	Area Fill	1

11+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	0
Volume Fill	0	Volume Fill	0	Volume Fill	0

STA. 11+00.00 TO STA. 12+00.00

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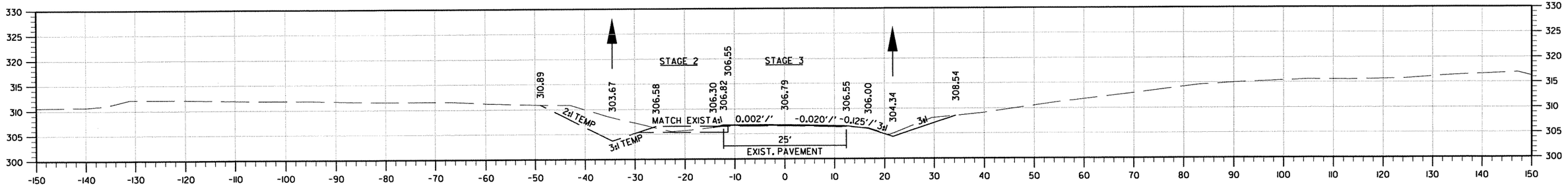
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100687	250	252

(2) CROSS SECTIONS 3rd St

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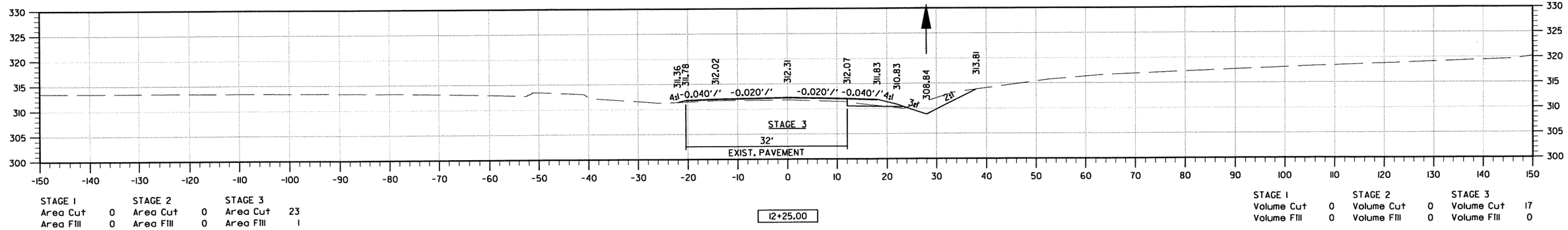


STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	71	Area Cut	30
Area Fill	0	Area Fill	0	Area Fill	72

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	66	Volume Cut	50
Volume Fill	0	Volume Fill	0	Volume Fill	77

STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	23
Area Fill	0	Area Fill	0	Area Fill	11

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	22
Volume Fill	0	Volume Fill	0	Volume Fill	5



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	0	Area Cut	23
Area Fill	0	Area Fill	0	Area Fill	1

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	0	Volume Cut	17
Volume Fill	0	Volume Fill	0	Volume Fill	0

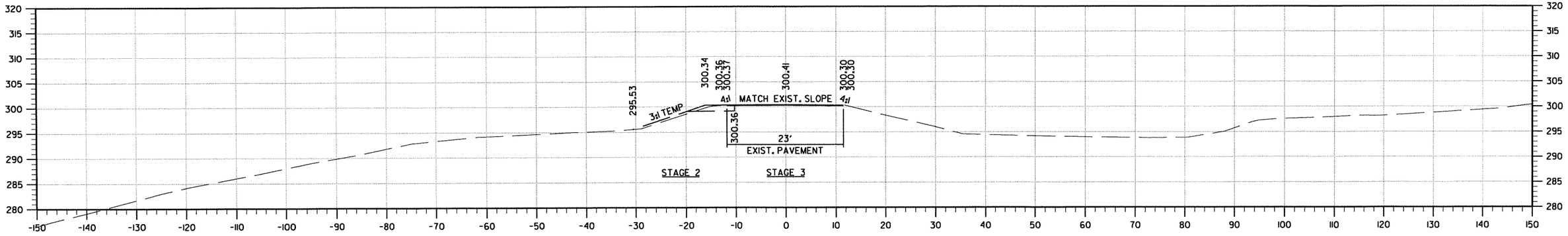
STA. 12+25.00 TO STA. 13+00.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100687	251	252

(2) CROSS SECTIONS 3rd St

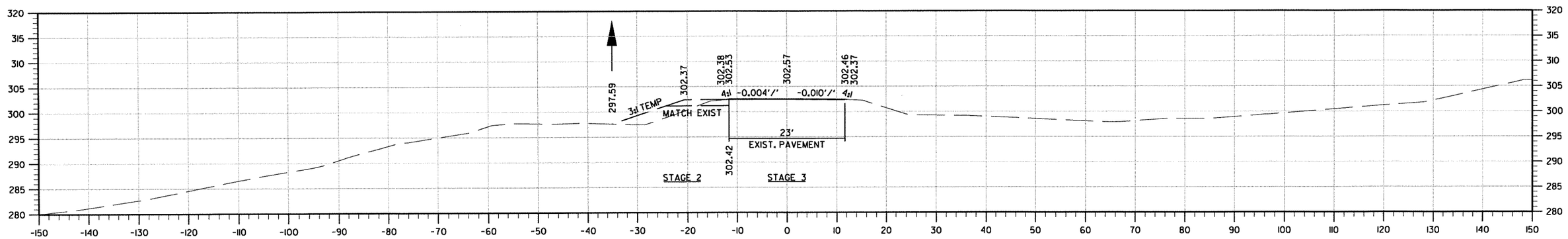
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STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	7	Area Cut	18
Area Fill	0	Area Fill	5	Area Fill	7

13+75.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	6	Volume Cut	27
Volume Fill	0	Volume Fill	14	Volume Fill	5



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	5	Area Cut	40
Area Fill	0	Area Fill	25	Area Fill	5

13+50.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	71	Volume Cut	65
Volume Fill	0	Volume Fill	23	Volume Fill	71

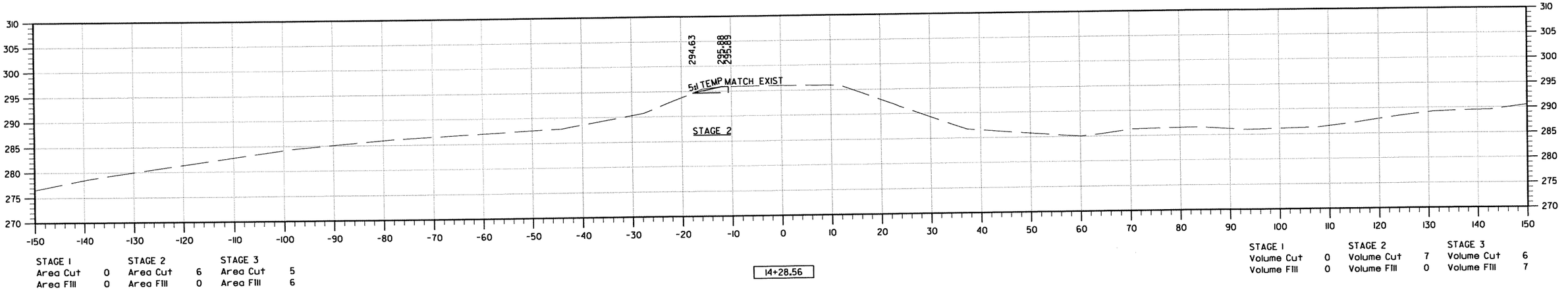
STA. 13+50.00 TO STA. 13+75.00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

DIST.NO.	STATE	FEDERAL PROJECT NO.	NO.	SHEETS
6	ARK.			
JOB NO.		100687	252	252

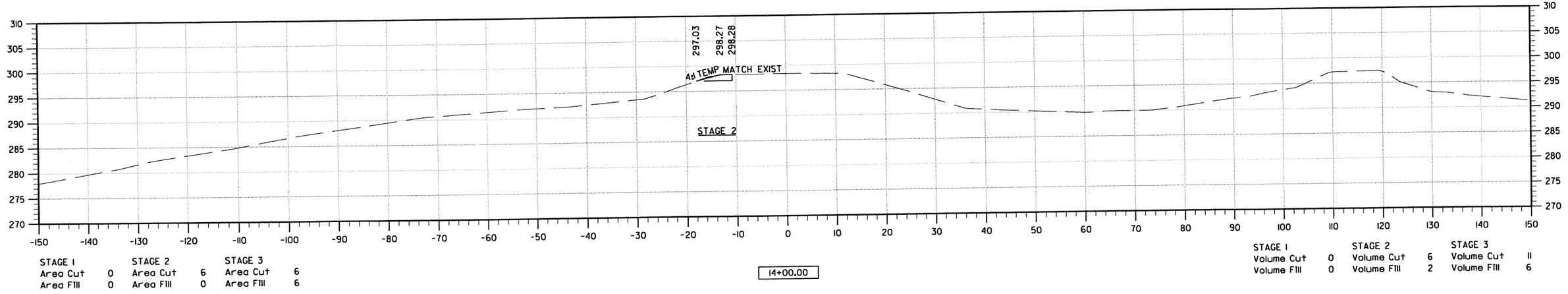
(2) CROSS SECTIONS 3rd St



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	6	Area Cut	5
Area Fill	0	Area Fill	0	Area Fill	6

14+28.56

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	7	Volume Cut	6
Volume Fill	0	Volume Fill	0	Volume Fill	7



STAGE 1		STAGE 2		STAGE 3	
Area Cut	0	Area Cut	6	Area Cut	6
Area Fill	0	Area Fill	0	Area Fill	6

14+00.00

STAGE 1		STAGE 2		STAGE 3	
Volume Cut	0	Volume Cut	6	Volume Cut	11
Volume Fill	0	Volume Fill	2	Volume Fill	6

STA. 14+00.00 TO STA. 14+28.56

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